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A STUDY OF THE INCIDENCE OF DISABLING SICKNESS IN A SOUTH CAROLINA COTTON MILL VILLAGE IN 1918.*

BASED ON RECORDS OF A CONTINUOUS CANVASS OF HOUSEHOLDS DURING THE PERIOD MARCH 1 TO NOVEMBER 30, 1918.

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From March through November, 1918, the cotton-mill village of *In*, South Carolina, was under continuous observation for cases of illness. In the course of a study of pellagra in this village, an enumerator visited each household every two weeks to obtain data regarding economic and dietary conditions of the family. On these visits he inquired also for any cases of illness in the family during the preceding two weeks, and for each case reported a statement was obtained as to its cause, duration, and whether or not a doctor was in attendance. The observations on pellagra incidence, however, were not made by this enumerator, but by medical officers, and will be published in detail in later papers. The results of the general illness canvass are believed to be of sufficient interest for presentation, although it was undertaken as an experiment in collecting continuous records of this kind.

The village under consideration is a typical South Carolina cotton mill village, forming a separate community. Its total population in 1918 varied around 600 and was composed entirely of persons of Anglo-Saxon race stock who were native born of native parentage. There was almost no opportunity for employment other than the mill work, and practically every one in the village 14 years of age or older was either working in the mill during those months or at some time had worked in the mill.

* From Field Investigations of Pellagra, United States Public Health Service. This is the third of a series of papers presenting the results of studies of sickness prevalence in cotton mill communities, the other two being—

Sydenstricker, E., Wheeler, G. A., and Goldberger, J.: Disabling sickness among the population of seven cotton mill villages of South Carolina in relation to family income (1916). Pub. Health Rep., Nov. 22, 1918. Reprint No. 492.

Wiehl, Dorothy, and Sydenstricker, E.: Disabling sickness in cotton mill communities of South Carolina in 1917. Pub. Health Rep., June 13, 1924. Reprint No. 929.

The actual number of persons of record varied somewhat from month to month, the largest number being 571, in April, and the smallest 480, in November. During the severe influenza epidemic in October and November, 1918, the enumerator could not obtain any detailed information from some of the families in which the usual informants were sick. Since all persons in families for which no record could be obtained were excluded from the tabulations here presented, the rates for October and November are probably too low. Even then, the amount of sickness which occurred in October and November was so extraordinarily high that it is impossible to use these nine months' experience to obtain an annual rate which may be considered typical of normal conditions. As will be shown, the sickness incidence in the late spring and early summer exhibited unusual features also, so that the results of the canvass can not be used as typical of ordinary conditions and localities.

SEASONAL VARIATIONS.

While the period of observation did not cover an entire year, the records obtained afford an interesting picture of the variations in the incidence of disabling sickness during nine months of 1918, beginning March 1 and ending November 30. The monthly incidence rates are given in Table 1 and plotted in Figure 1.

TABLE 1.—*Monthly variation in the incidence of disabling sickness among families of cotton mill workers at In, S. C., in 1918.*

Month.	Annual rate per 1,000 persons observed.
March.....	1,262
April.....	852
May.....	1,332
June.....	1,293
July.....	999
August.....	682
September.....	1,203
October.....	3,993
November.....	1,648

Two specific periods of high sickness incidence are shown, namely, May-June and September-November, and a third is suggested by the decline in April from the March rate. The unusual wave in the autumn obviously is accounted for by the occurrence of the great influenza epidemic. The reasons for the two other periods of high incidence naturally become subjects for consideration.

The records made of the causes of disability were of necessity very rough; the family's statement of the cause had to be accepted without any verification. In cases where a physician was in attendance, some sort of diagnosis was recorded, but in many instances a state-

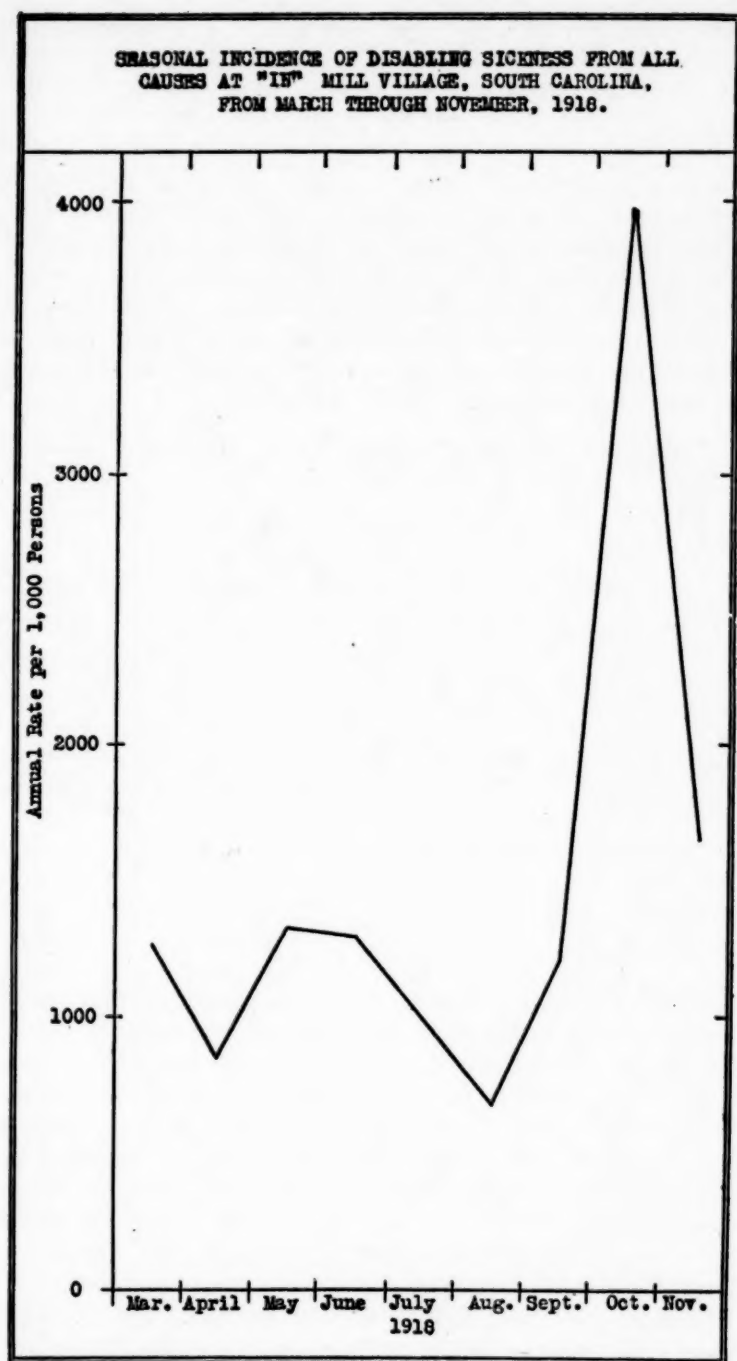


FIG. 1.

ment of symptoms was all that was available. From one point of view, at least, such a record is not without value, since it enables one to group affections difficult to diagnose but with more or less common symptoms, which otherwise might be impossible had diagnoses been made by physicians. We have not attempted, therefore, to classify separately any causes except a few which occurred most frequently; and while the resulting tabulation is far from being a scientific statement of the causes of disability, a general picture is afforded that is not without interest and some significance, especially in view of the facts that it is the result of the first attempt, so far as we are aware, to keep a continuous record of illness in an entire community and that the particular community in question was subject to pellagra to a marked extent in 1918.

TABLE 2.—*Monthly incidence of disabling sickness from certain causes and of pellagra during the period March–November, 1918, in In mill village, S. C.*

Cause.	Annual rate per 1,000 population observed.									
	March.	April.	May.	June.	July.	August.	September.	October.	November.	Nine months
Whooping cough.....					43		134	45		25
Colds.....	538	341	279	72	169	64	267	522	355	283
Grippe.....	372	192	64		43	21	67	23		87
Influenza.....							178	3,153	1,166	502
Indigestion.....	21	21	150	24	65	64	67	23	25	51
Dysentery.....	21		172	335	217	43	67			95
Headache.....	41	43	86	192	87	21	22		25	57
All other ¹	185	256	471	576	370	318	245	136	50	291

Pellagra incidence as recorded for total mill workers' population by medical officers.

Pellagra.....	40	102	198	389	238	20	41	20		116
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¹ Exclusive of confinements and "female troubles."

In Table 2, the incidence of whooping cough, of which a slight epidemic occurred in the early fall, is shown separately. It may be stated that no other infectious diseases of childhood, such as measles, diphtheria, or scarlet fever, occurred. Respiratory affections, included under "colds," since they were recorded as such, have been placed along with "grippe" and "influenza." The other specific causes of disabling sickness were recorded (according to the information given) chiefly as "indigestion," "dysentery," and "headache," which are shown separately in the table; as pellagra, which was given by the informants as the cause of disabling sickness in only six instances; as "neuralgia," "kidney trouble," "heart trouble," and as various other complaints. In many instances, however, the statement was made that the person was not feeling well and that he did not know what was the matter with him. Because of their ill-

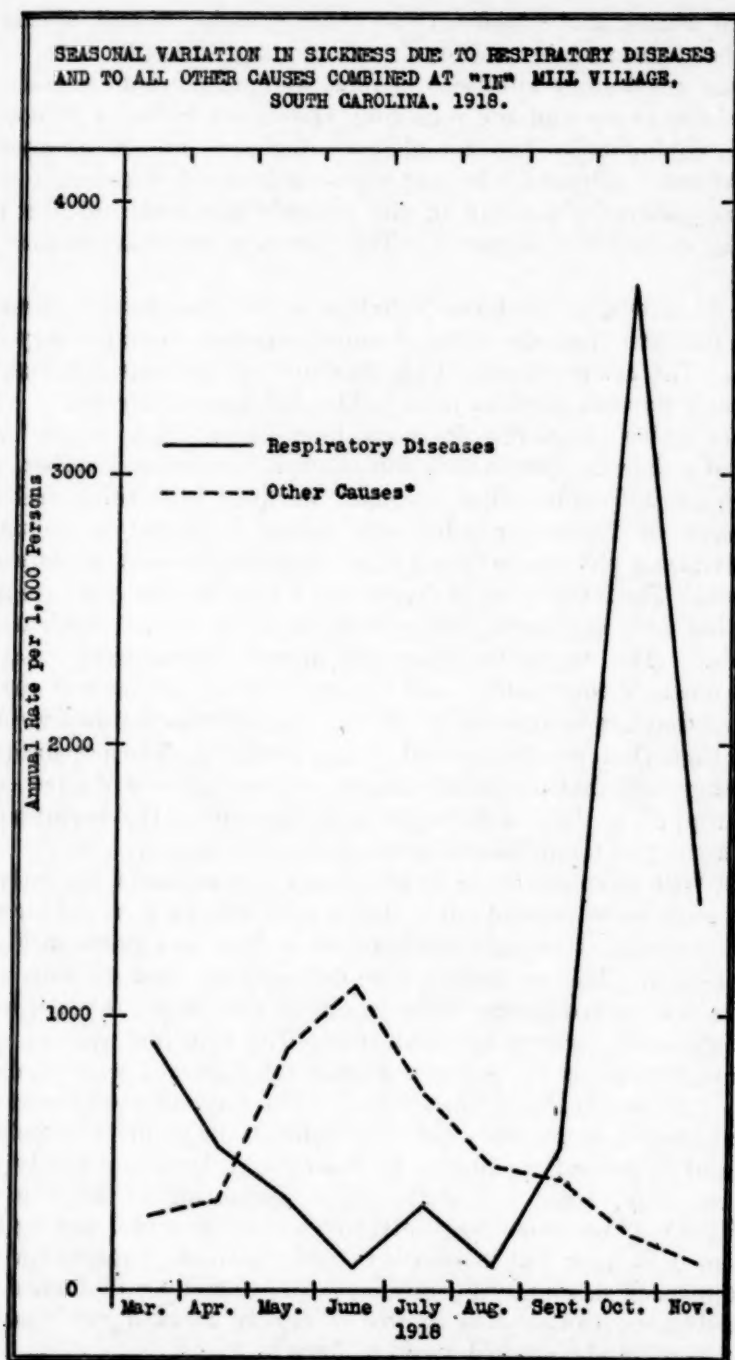
defined nature and variety, these other complaints and affections have been grouped together under the heading "other."

If the respiratory affections, grippe, and influenza be considered as a single group and the remaining causes (exclusive of whooping cough, confinements and complaints designated by the informants as "women's diseases") be put together in another group, a very marked difference appears in the monthly variations of the two groups, as shown in Figure 2. The following observations may be noted:

(1) It is evident that the variation in the first-named group is quite different from the usual seasonal variation in respiratory diseases. The extraordinarily high incidence of epidemic influenza in the early autumn with its peak in October is perfectly plain. The further rather interesting facts are brought out that "colds" also showed a definite wave which also reached its crest in October, and that while affections called "grippe" declined in October and disappeared in November—obviously being diagnosed as influenza by attending physicians—some cases occurred as early as July and August. The further fact is shown that a high incidence of "grippe" occurred also in March, along with an even higher incidence of "colds." The suggestion does not appear unreasonable that at least much of the "colds" and "grippe" in the spring was the influenza that has been noted elsewhere as of a similar but less virulent type than that which occurred in the autumn. The possibility is also suggested that the rather unseasonable occurrence of a few cases of "grippe" in July and August may have been the beginning in this locality of the influenza epidemic which followed.

(2) With reference to the second group of complaints, the interesting feature to be pointed out is that a very definite wave occurred in the late spring, attaining a marked crest in June, as a glance at Figure 2 will show. This occurrence is so definitely at variance with what has been observed among other groups of individuals in other localities¹ that it deserves consideration. The principal specific complaints included in the group as "other" in Figure 2 were "indigestion," "dysentery," and "headache." These constituted about one-third of the total number of cases included in the group of miscellaneous and ill-defined complaints in March and April and nearly one-half in May, June, and July. It is interesting to observe that "indigestion" was most frequently given as a cause of disabling sickness in May, and that "dysentery" and "headache" reached a very definite peak in June. Furthermore, the remaining ill-defined and miscellaneous causes also showed a clearly marked rise and fall with a definitely marked peak in June.

¹ Reference may be made to recent publications from the Statistical Office in the Public Health Reports on sickness among school children and wage-earning adults. (See references in the second paper in this series.)



* Excludes confinement and "women's diseases"; also whooping cough.

FIG. 2.

In attempting to account for this phenomenon, there can be no doubt, it seems to us, that there is a close relationship between what we may term the "wave of ill-health," as revealed by the various and sundry complaints to which specific reference has just been made and the incidence of pellagra. In order to show this association more clearly, we have plotted the monthly incidence rates from "indigestion," "dysentery," "headache," and the less well-defined and miscellaneous causes, as graphs in Figure 3, and have added to this diagram a graph showing the incidence of pellagra as observed by the medical officers of the Public Health Service who carried on a bi-weekly house-to-house canvass for pellagra among the same population during 1918. The least that can be said is that the curves are strikingly similar. When the symptomatic significance of "indigestion," particularly in view of its somewhat earlier incidence than the other complaints, and of "dysentery" are considered, the epidemiological relation of these to pellagra is even more strongly suggested.

If such a relationship can be assumed to have occurred, the question properly should be raised as to whether or not these cases of sickness were merely the pellagrins themselves reporting symptoms of their own attacks. In the first place, it should be stated that cases were diagnosed by the medical officers as pellagra only when a fairly definite bilaterally-symmetrical dermatitis, in addition to any other symptoms, was present. In the second place, the records of individuals who suffered from disability from any of the complaints under consideration have been checked against the records of the medical officers for cases diagnosed by them as pellagra, with the result that while some were identical individuals, the great majority of the cases of disabling sickness from these causes had not been included as pellagra as above defined. This, of course, is also perfectly evident from the fact that the incidence rate for the group of causes we are considering was always more than twice as high as the pellagra rate.

It seems to us to be entirely proper to suggest that much of the ill-health variously described in terms of symptoms and ill-defined complaints and suffered by persons *not* diagnosed as pellagrins, which assumed the proportions of a veritable wave of sicknesses severe enough to cause inability to work or to engage in usual activities, was in some degree the result of conditions similar to those which were responsible for the almost coincident wave of pellagra incidence. In fact, either or both of two hypotheses appear reasonable with respect to the real nature of at least some of these cases of disability: (1) That some were pellagra but were arrested, as the result of some favorable condition, before reaching an eruptive stage; (2) that some were pellagra without eruption, i. e., "pellagra sine pellagra."

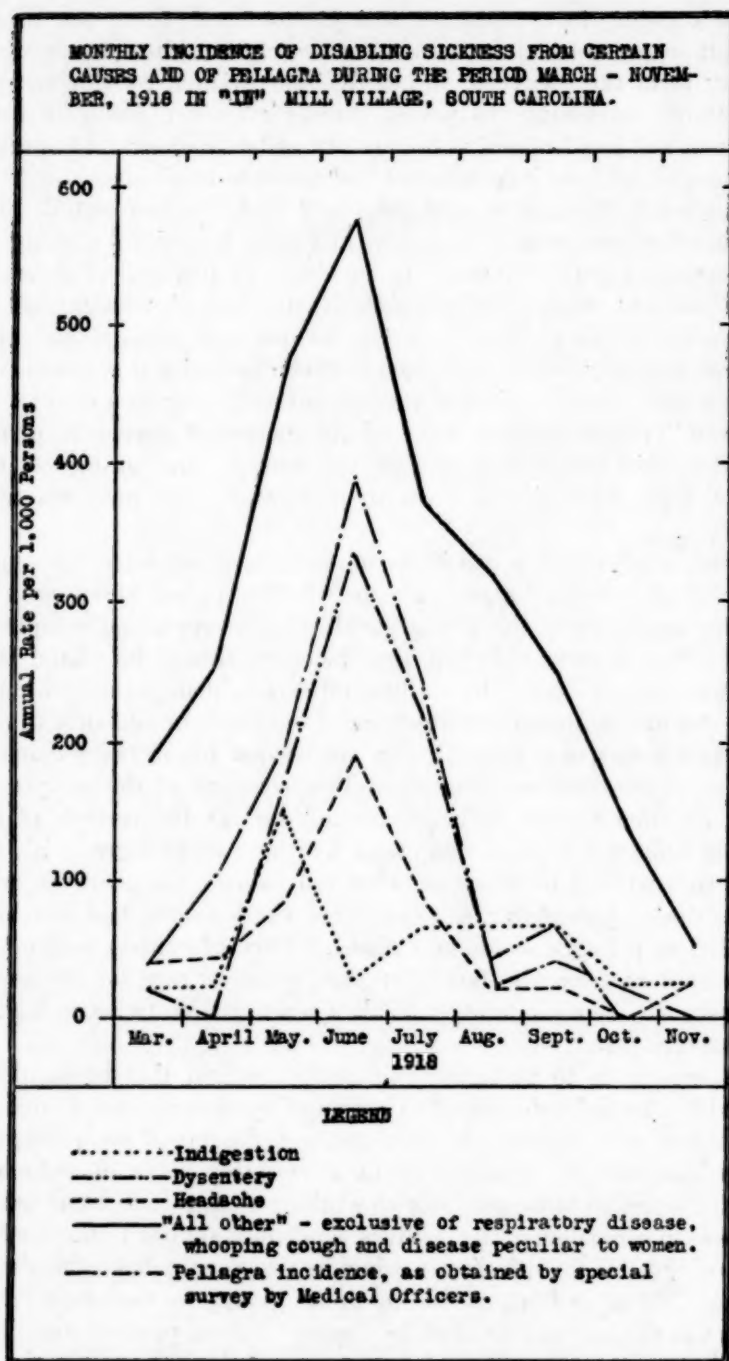


FIG. 3.

SICKNESS RATES BY AGE AND SEX.

It is evident from the foregoing tables that considerable confusion will result if the entire period of record is used for expressing the variations in the sickness rates according to sex and age. For the months in which the major influenza wave of 1918 occurred, the age curves may be expected to be more or less characteristic of the age curves of epidemic influenza. We have, therefore, considered separately the sex and age incidence of influenza, pneumonia, grippe, and "colds" which occurred during the months of September, October, and November, and the sex and age incidence of all sicknesses which occurred during the preceding period March-August. A greater degree of refinement in classification as to cause or nature of illness is not possible because of the paucity of data.

TABLE 3.—Incidence of sickness from all causes for males and females of different ages.

[From a continuous survey from March through August, 1918, of about 550 residents of In mill village, South Carolina.]

Age group. (Years.)	Annual case rate per 1,000 persons.		
	All persons.	Males.	Females.
All ages.....	1,071	880	1,243
Under 5.....	1,204	1,112	1,400
5-9.....	282	349	231
10-14.....	613	590	632
15-19.....	829	482	1,035
20-24.....	1,192	460	1,835
25-29.....	1,557	1,522	1,589
30-34.....	1,507	939	1,999
35-39.....	1,856	2,009	1,605
40-44.....	1,467	1,182	1,801
45-49.....	1,134	1,316	850
50-54.....	1,939	1,587	2,314
55 and older.....	2,080	1,490	2,509

Considering first the March-August period, Table 3 gives the incidence rate of all disability recorded for certain age periods, with reference to sex. While probably some influenza is included—if the suggestion as to the occurrence of influenza in the spring of 1918 be accepted—the curves tend to be generally similar to morbidity age curves already familiar, with one probably significant exception, viz, the much higher incidence for adolescent and adult females. If it is possible to assume a relationship between some of the disabling sickness which occurred in the period March-August and pellagra, as has been suggested, then the difference between the male and the female rate in the ages between 15 and 44 can be partly accounted for since the pellagra rate at those ages has been seen to be much higher for females than for males,² and the difference between the sexes in

² See Goldberger, Wheeler, and Sydenstricker: Pellagra Incidence in Relation to Sex, Age, Season, etc. U. S. Public Health Reports, July 9, 1920. (Reprint No. 601, pp. 5-9) and other studies therein referred to.

this respect is much greater than that shown for other population groups. The relatively high incidence of pellagra among children, especially those 5-9 years of age, is not reflected, however, in the disability rates given here; yet this inconsistency—if our hypothesis be considered possible—might be only an apparent one in the light of

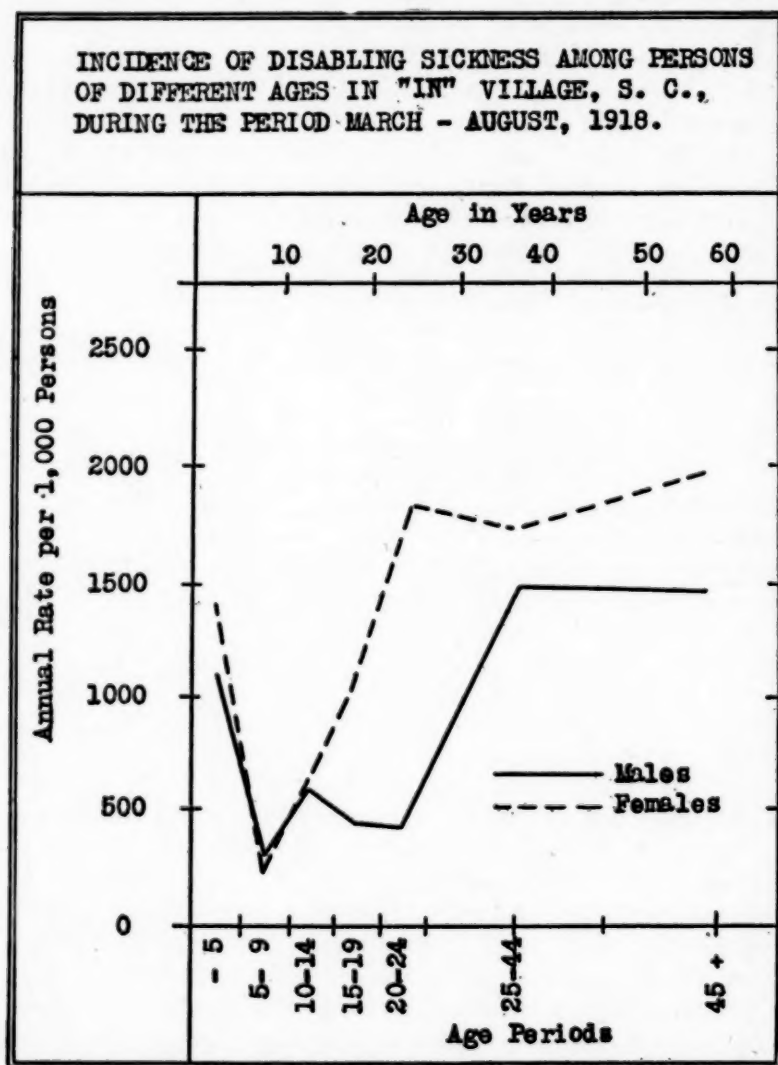


FIG. 4.

the clinical observation that less frequently than at older ages are pellagrins of the ages under 10 subject to disabling effects or the symptoms of the general character to which reference has been made. The data, we repeat, are too few and too inexact to permit of much refinement of interpretation, and it would be unwarranted to

employ them for any other than very general consideration on this point. The rather low rates shown for persons 45 years of age and over are probably due to a selection of individuals in the cotton-mill population, since the old age population of cotton-mill communities is relatively quite low, and to the fact that in our table the incidence of chronic and old age cases are not included in the short period covered.

TABLE 4.—Annual rate per 1,000 persons of cases of influenza, pneumonia, grippe, and colds during the 1918 epidemic period, in In mill village, S. C., classified by age and sex.

Age group. (Years.)	Annual rate per 1,000.		
	All persons.	Males.	Females.
Under 5.....	1,168	1,114	1,239
5-14.....	1,923	1,938	1,899
15-24.....	2,506	2,486	2,519
25-44.....	1,962	1,933	1,991
45 and over.....	1,511	1,470	1,549

In Table 4 and Figure 5 a very different age distribution for cases of influenza is seen. These rates are not only for influenza but include all pneumonia, grippe, and colds in the months of September, October, and November, as most such cases here dealt with during that period may be considered as influenza. While the population considered is small, the curve as shown in Figure 5 is somewhat similar to that of epidemic influenza morbidity and need not be commented upon further.³

THE SICKNESS RATE AMONG FAMILIES OF DIFFERENT INCOMES.

Although the size of the population is small, a consideration of the association of morbidity with economic status is especially interesting in this instance because the influence of several factors, which usually are confusing in the drawing of any conclusions on this point, was limited in the selection of the community studied.

The population was homogeneous in an unusual degree, from the points of view of race stock and environment. The persons included were all native-born of native white ancestry, having been descended from the English settlers in the uplands of northwestern South Carolina and southern North Carolina. For generations they had lived on mountain farms or as tenant farmers in the adjacent upland territory, from which the population under consideration came directly to the mill villages. In the village they lived in houses of a uniform type; the sanitation of the village was uniform throughout;

³ Cf. Frost, W. H.: Statistics of influenza morbidity. Pub. Health Rep., Mar. 12, 1920. (Reprint No. 586, p. 9.)

the people were employed in the same mill and, unless coming directly from the farm, had been employed under similar conditions in similar mills and had lived in communities remarkably like the particular village of *In*. Their occupations were essentially the same, and the rates of pay differed relatively little. In fact, differences in family

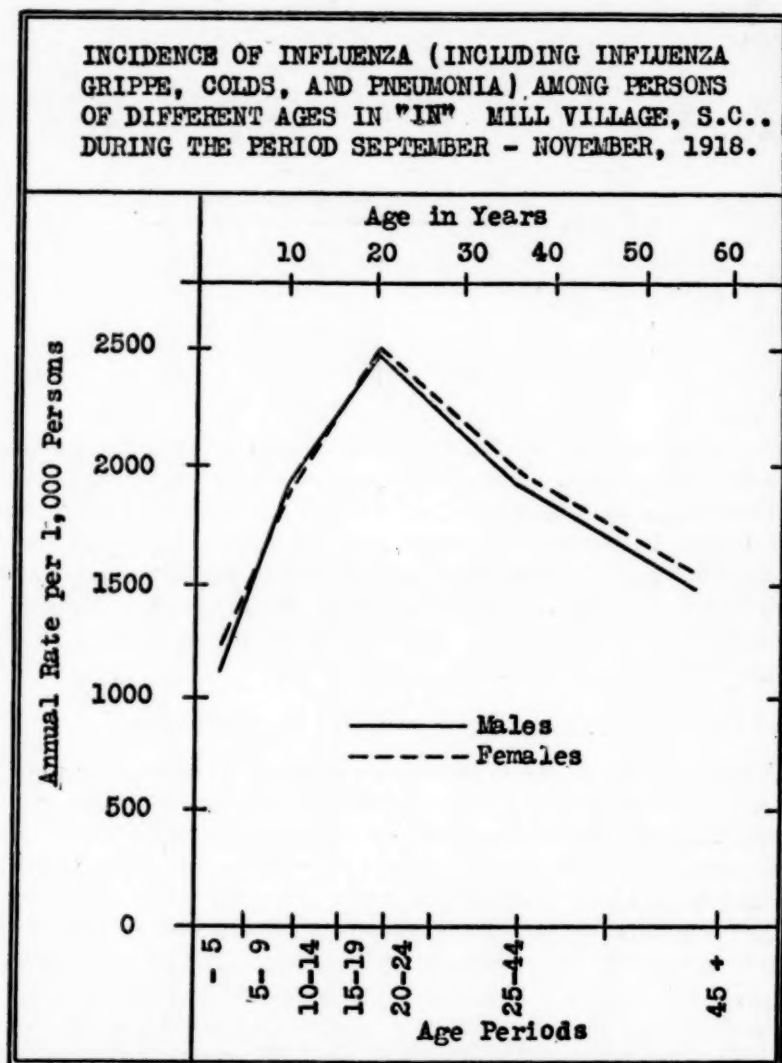


FIG. 5.

income were due in slight degree only to differences in wages, or to sources of income; the principal condition resulting in difference in economic status was the number of wage-earners in proportion to the number of persons dependent upon that income. At certain stages of family life, therefore, income was more abundant than at others,

and in exigencies caused by disability of the wage-earning members or other condition, family income would be seriously depleted. Undoubtedly, individuals differed as to earning capacity and resistance to disease, and we must assume that families were characterized by the same differences. But, in this instance, income, as determined largely by purely environmental conditions, seems to be a factor peculiarly well isolated, not as satisfactorily as it should be for clear-cut analysis, yet at least better than it could well be under less homogenous circumstances. And while our study does not go any farther in analyzing the particular ways in which income is associated with the sickness rate, it has seemed of sufficient interest to present the data for what they are worth. The particular effect of differences in income upon the diet of cotton mill households has already been discussed.⁴

For each family under consideration the average weekly income was computed for the two months of April and May. This is based on the individual earnings of all contributing members of the family plus income from other sources such as keeping boarders, owning a cow, having a garden, etc. The total income has been reduced to "income per ammain" by dividing it by a factor representing the number of adult males, or the equivalent,⁵ in the family. Thus the incomes of families of different sizes or varying in age and sex composition are made, as we believe, comparable. The income for each family has been divided also by an index of prices in the village, using July, 1917, as a base, so that the income is of the same purchasing power as that used in the 1917 study of morbidity in South Carolina cotton-mill villages. Because of the small numbers involved, it was necessary to limit the classification of individuals to only three groups.

The results are shown in Table 5. Since the age distributions in the three income classes differed considerably, the rates were adjusted to a standard. Differences as regards sex were negligible. The differences in sickness rates (with their probable errors) between income classes are as follows:

Income classes compared.	Difference.
"Under \$5" and "\$5-6.99"-----	59 ± 34
"Under \$5" and "\$7 and over"-----	251 ± 41
"\$5-6.99" and "\$7 and over"-----	192 ± 38

⁴Goldberger, Wheeler, and Sydenstricker: A study of the relation of family income and other economic factors to pellagra incidence in seven cotton mill villages of South Carolina in 1916. Pub. Health Rep., Nov. 12, 1920. (Reprint No. 621.)

⁵The needs of an adult male are taken as 1 and those of a person of any other age or opposite sex as a fractional part of 1 according to a scale of gross requirements worked out in a special study of cotton mill families in 1916 and 1917. See "A method of classifying families according to incomes in studies of disease prevalence." By Edgar Sydenstricker and Wilfred I. King, Pub. Health Rep. Nov. 26, 1920. (Reprint No. 623.)

While the variations are consistent, only the differences between the two lower income classes and the highest are five times their probable errors and may be regarded as statistically significant. In other words, when the weekly family income was less than \$7 per annum, an appreciable rise in the sickness rate was evidenced.

TABLE 5.—*Disabling sickness in relation to family income.*

[Based on continuous observations of 495 persons from March through August, 1918, in the village of In, South Carolina.]

Weekly family income per annum.	Number of persons recorded.	New cases, March–August.	Crude rate per 1,000.	Rate adjusted for age differences. ^a
Under \$5.00.....	160	90	563	608 ± 26
\$5.00–6.99.....	229	124	541	549 ± 22
\$7.00 and over.....	106	42	396	357 ± 31

^a We have hesitated to use the usual formula for expressing the probable error of these rates because even in the short period of 6 months there were a few instances of individuals who were attacked more than once. These instances, however, were infrequent and do not affect the general results as set forth in the discussion.

In this connection it occurred to us that it would be interesting to see whether or not a similar association existed between the amount of family income and the incidence of influenza and other respiratory affections during the period September–November. The data are given in Table 6:

TABLE 6.—*Influenza incidence in relation to family income.*

[Based on continuous observations of 406 persons during September, October, and November, 1918, in the Village of In, South Carolina.]

Weekly family income per annum.	Number of persons recorded.	New cases Sept.–Nov.	Crude rate per 1,000.	Rate adjusted for age differences.
Under \$5.00.....	146	92	630	710 ± 25
\$5.00–6.99.....	188	81	431	468 ± 25
\$7.00 and over.....	72	36	500	527 ± 40

The only statistically significant difference is that between the lowest income class and the two higher classes, as shown by the following:

Income classes compared.	Difference.
"Under \$5" and "\$5–6.99".....	242 ± 35
"Under \$5" and "\$7 and over".....	183 ± 47
"\$5–6.99" and "\$7 and over".....	59 ± 47

The results can not, of course, be given any more general interpretation or significance and are simply recorded as a series of observations upon a limited and, in many ways, a peculiar population.

Summary.

1. In connection with a study of pellagra during 1918 in the cotton mill village of *In*, South Carolina, the opportunity was afforded of keeping the population under continuous observation during nine months for the incidence of sickness. This was done as a first experiment in making observations of this kind, but the results are interesting in view of the unusual morbidity experience in 1918.

2. Three definite variations in the sickness rate were observed: (a) A high rate in the spring due to respiratory affections, including influenza; (b) a sickness "wave" during the late spring and early summer which seemed definitely related to pellagra; (c) the influenza epidemic in the autumn.

3. The sickness "wave" in the late spring and the early summer consisted chiefly of complaints stated as "indigestion," "dysentery," "headache," and a group of ill-defined complaints, including "neuralgia," "kidney trouble," "heart trouble," and the very vague although not infrequent complaint of "not feeling well." The fact that "indigestion," "headaches," "dysentery" and the group of ill-defined complaints showed a very definite wave in the period April-August, with a peak in June, suggests that they were evidences of pellagra that did not reach the eruptive stage or of some type of pellagra which did not have eruptive symptoms, or of both. The incidence of these complaints was far in excess of cases that were diagnosed as pellagra upon the basis of bilaterally symmetrical dermatitis in addition to other symptoms.

4. A consideration of the age incidence showed (a) that the illnesses occurring in the late spring and early summer had a distribution similar in important respects to the pellagra age curve; and (b) that the respiratory affections in the autumn had a distribution somewhat similar to the influenza morbidity age curve.

5. An inverse correlation between family income and the sickness rate is shown both for influenza and other respiratory diseases and for illnesses and complaints occurring in the period March-August. This association is of especial interest in view of the homogeneity of the population studied from the point of view of race stock, opportunity for earnings, and community sanitary conditions, and suggests the influence of some especial environmental factor, particularly upon the sickness rate in the March-August period.

APPENDIX.

TABLE A.—Number of persons and of cases of illness observed at In cotton mill village in South Carolina during March–August, 1918, by age groups.

Age (years).	March.		April.		May.		June.		July.		August	
	Number of persons.	Number of cases.	Number of persons.	Number of cases.	Number of persons.	Number of cases.	Number of persons.	Number of cases.	Number of persons.	Number of cases.	Number of persons.	Number of cases.
All ages.....	570	61	571	40	548	62	508	54	541	46	553	32
—5.....	76	11	76	4	72	8	73	13	79	8	82	4
5–9.....	105	3	102	2	101	3	92	3	95	3	99	0
10–14.....	72	3	71	4	68	7	64	4	65	2	67	1
15–19.....	44	9	50	2	73	7	70	4	79	9	76	3
20–24.....	33	3	35	4	45	6	43	2	45	4	42	2
25–29.....	33	3	33	1	35	7	24	6	29	2	33	2
30–34.....	33	6	33	4	34	6	31	5	32	2	34	5
35–39.....	42	9	42	8	39	7	35	5	37	5	41	3
40–44.....	28	3	31	4	29	4	26	3	28	4	28	3
45–49.....	17	1	17	1	17	1	17	2	18	1	18	4
50–54.....	12	2	12	1	11	1	11	2	11	3	11	2
55 and over.....	26	4	26	5	24	5	22	5	23	3	22	3

TABLE B.—Number of persons and of cases of illness observed at In cotton mill village in South Carolina during nine months of 1918: Classified by cause as stated.

	Number of cases with onset in month of—								
Cause of illness as stated.	March.	April.	May.	June.	July.	Aug- ust.	Sep- tember.	Octo- ber.	Nov- ember.
Total persons of record.....	569	571	548	508	542	553	546	519	480
All causes.....	61	40	62	54	41	32	450	176	64
Cold.....	26	16	13	3	5	3	12	23	14
La grippe.....	18	9	3	—	2	1	3	1	—
Influenza.....	—	—	—	—	—	—	8	139	46
Dysentery.....	1	—	8	14	10	2	3	—	—
"Indigestion" and "stom- ach trouble".....	1	1	7	1	3	3	3	1	1
"Kidney trouble".....	2	2	3	3	1	1	—	—	—
Neuralgia.....	—	—	1	2	1	—	2	2	1
Pellagra.....	1	1	1	2	—	1	—	—	—
Headache.....	2	2	4	8	4	1	1	—	1
Whooping cough.....	—	—	—	—	2	—	6	2	—
Teething.....	1	—	2	1	1	1	—	—	—
Miscellaneous.....	2	7	5	6	4	7	4	3	—
Ill defined.....	3	2	10	10	5	5	1	1	—
Child birth.....	3	—	4	2	5	5	4	1	1
Other "female trouble".....	1	—	1	2	3	2	3	3	—

TABLE C.—Number of persons and of cases of influenza and other respiratory diseases during the period September–November, 1918, in the cotton mill village of In South Carolina, by age groups.

Age group (years).	Number of persons.			Number of cases.		
	September.	October.	November.	September.	October.	November.
Under 5.....	85	79	75	3	16	4
5–14.....	106	158	152	2	52	21
15–24.....	110	96	96	8	37	16
25–44.....	133	125	112	6	41	13
45.....	52	42	45	4	7	6

THE LEGAL ASPECTS OF MILK CONTROL.

By JAMES A. TOBEY, M. S., LL.B., National Health Council, New York.

On few public health subjects is there such a unanimity of opinion by courts of last resort as on milk control. Almost without exception the highest courts in 30 or more States and the United States have upheld the regulation of milk as proper and reasonable. It is, of course, the function of the courts to interpret and pass on the legality of the laws which are promulgated by the legislative and enforced by the executive branches of our tripartite system of government. There are assembled below a list of 121 court decisions of the highest courts of appeals of 31 States and the Federal Government, which deal with some phase of milk regulation. This is, it is believed, the most complete list ever published.

The regulation of milk and milk supplies has been repeatedly upheld as a valid exercise of the police power. The police power is the inherent power of the State to enact laws, within constitutional limitations, to promote public safety, health, morals, comfort, and welfare. It was a power possessed by the States before they granted certain rights to the Federal Government, as incorporated in the Constitution, and it has never been relinquished by them. The police power is the basis of all public health work within the State. The United States Supreme Court, final arbiter on all matters arising under the Federal Constitution, has held on several occasions (see cases cited below) that milk regulations form a valid exercise of this police power.

The delegation of the power of control over milk to boards of health has likewise often been upheld. The United States Supreme Court so ruled in *Lieberman v. Van de Carr*. The fixing of standards of milk has also been held, in a long line of court decisions, to be a proper function of health authorities. In particular, cases brought by or against large cities, such as Chicago, St. Louis, New York, and others (see cases listed below in proper States), have settled this matter affirmatively. The United States Supreme Court has so decreed in several cases.

Regulation of the inspection of dairies and of cattle is valid, according to such decisions as *Hill v. Fetherolf* (Penn.), *Walton v. Toledo* (Ohio), and *Creaghan v. Baltimore* (Md.). The tuberculin test has been supported by nearly a score of cases, especially *Adams v. Milwaukee*, before the United States Supreme Court, *Borden v. Montclair* (N. J.), *Nelson v. Minneapolis*, and *State v. Nelson* (Minn.), *New Orleans v. Charouleau* (La.), *Hawkins v. Hoyer* (Miss.), and *St. Louis v. Liessing* (Mo.). See citations below.

Adulteration of milk has been taken up by the courts in numerous instances, and there are probably more cases on this phase of the subject than any other. As with the fixing of standards, prevention of adulteration and penalties for it have always been upheld. The United States Supreme Court passed on the matter in the so-called "filled milk" case, *Hebe Co. v. Shaw*. See also particularly *People v. Cipperly* (N. Y.), *Commonwealth v. Wait* (Mass.), *Isenhour v. State* (Ind.), *State v. Schlenker* (Iowa), and *St. Louis v. Schuler* (Mo.). A city may prevent unsafe milk from entering, according to *Reid v. People of Colorado*, a United States Supreme Court decision.

The licensing of milk dealers, dairies, and sellers has been pronounced valid. See *Cofman v. Outerhous* (N. D.), *Niles v. Smith* (Fla.), *State v. McKinney* (Mont.), *Newport v. French* (Ky.), *Littlefield v. State* (Nebr.), and others. Such licensing must not be discriminating, however, as the requirement of licenses only from the owners of milk vehicles. *Read v. Graham* (Ky.).

Taking samples for analysis is not considered as evidence against self. *Commonwealth v. Carter* (Mass.), *State v. Dupaquier* (La.). Impure milk or that handled contrary to regulation may be destroyed in a summary manner as a nuisance. *Shivers v. Newton* (N. J.), *Deems v. Baltimore* (Md.), *Kaiser v. Walsh* (Ohio), *Adams v. Milwaukee* (Wis.), and others. Proper receptacles, such as sealed bottles, may legitimately be required, as well as special labels. *Mannix v. Frost* (N. Y.), *State v. Stokes* (Conn.), *Jury v. State* (Ohio).

Pasteurization or certification requirements have been upheld in five notable cases, although they have arisen in only four States, viz, Illinois, New York, North Carolina, and Wisconsin. *Koy v. Chicago* (Ill.), *People v. McGowan*, *Moll v. City of Lockport* (N. Y.), *State v. Edwards* (N.C.), *Pfeffer v. Milwaukee* (Wis.).

Besides the cases mentioned in the text above, there are many others applicable. When a case has been decided by a State court, the general principles involved in that case become a precedent for the State. The decisions of other State courts will also be considered, but are of less weight. If no case along the same lines has been adjudicated in the State, decisions of other States will have much influence with the court. The following list of court decisions will be of value to health officials and also to attorneys who wish to look up the authorities on this important subject of milk control.

List of Court Decisions on Milk Control.

UNITED STATES.

Reid v. Colorado, 187 U. S. 137.

Fischer v. St. Louis, 194 U. S. 361; 48 L. Ed. 1018.

Lieberman v. Van de Carr, 199 U. S. 552; 50 L. Ed. 305; 26 S. Ct. 144.

St. John v. New York, 201 U. S. 633; 50 L. Ed. 896; 26 S. Ct. 554; 5 Ann. Cas. 909.

Adams v. Milwaukee, 228 U. S. 572; 57 L. Ed. 971; 33 S. Ct. 610.

Hebe Co. v. Shaw, 248 U. S. 297; 63 L. Ed. 255.

ALABAMA.

Birmingham v. Goldstein, 151 Ala. 473; 12 L. R. A. (N. S.) 568; 125 Am. S. R. 33; 44 So. 113.

ARIZONA.

Gardenhire v. State, 221 Pac. 228.

CALIFORNIA.

Johnson v. Simonton, 43 Cal. 242.

Luchini v. Roux et al., 157 Pac. 554.

CONNECTICUT.

State v. Stokes, 91 Conn. 67; 98 Atl. 294.

State v. Tyrell, 122 Atl. 924.

DISTRICT OF COLUMBIA.

D. C. v. Lynham, 16 App. D. C. 85.

Weigand v. D. C. 22 App. D. C. 559.

D. C. v. Garrison, 25 App. D. C. 563.

Dade v. U. S., 40 App. D. C. 94.

FLORIDA.

Niles v. Smith, 57 So. 426.

ILLINOIS.

Sullivan v. Oneida, 61 Ill. 242.

Phillips v. Meade, 75 Ill. 334.

Gundling v. Chicago, 176 Ill. 340.

Chicago v. Netcher, 183 Ill. 104; 55 N. E. 707.

Chicago v. Bowman Dairy Co., 234 Ill. 294; 84 N. E. 913; 17 L. R. A. (N. S.) 684; 123 Am. S. R. 100; 14 Ann. Cas. 700.

Chicago v. Union Ice Cream Mfg. Co., 252 Ill. 311.

Koy v. Chicago, 263 Ill. 122; 104 N. E. 1104; Ann. Cas. 1915 C. 67.

Chicago v. C. & N. W. Ry. Co., 275 Ill. 30; 113 N. E. 849; L. R. A. 1917 C. 238.

INDIANA.

Isenhour v. State, 157 Ind. 519; 62 N. E. 40; 87 Am. S. R. 228.

IOWA.

State v. Schlenker, 112 Ia. 642; 84 N. W. 698; 51 L. R. A. 347; 84 Ann. S. R. 360.

KANSAS.

State v. Meyer, 146 Pac. 1007.

Kansas City v. Henre, 96 Kan. 794; 153 Pac. 548.

KENTUCKY.

Read v. Graham, 31 Ky. L. R. 569; 102 S. W. 860.

Sanders v. Com., 117 Ky. 1; 77 S. W. 358; 1 L. R. A. (N. S.) 932; 111 Am. S. R. 219.

Weyman v. Newport, 153 Ky. 487; 156 S. W. 109.

Covington v. Kollman, 160 S. W. 1052.

Newport v. French Bros. Bauer Co., 169 Ky. 174; 183 S. W. 532.

Owensboro v. Evans, 172 Ky. 831; 189 S. W. 1153.

LOUISIANA.

State v. Labatut, 39 La. Ann. 513; 2 So. 550.

State v. Fourcade, 45 La. Ann. 717; 13 So. 187; 40 Am. S. R. 249.

State v. Dupaquier, 46 La. Ann. 577; 15 So. 502; 26 L. R. A. 162; 49 Am. S. R. 334.

New Orleans v. Charouleau, 121 La. 890; 46 So. 911; 18 L. R. A. (N. S.) 368; 126 Am. S. R. 332; 15 Ann. Cas. 46.

New Orleans v. Vinci, 96 So. 110 (1923).

New Orleans v. Ernst, 99 So. 391.

New Orleans v. Poulet, 99 So. 394.

MARYLAND.

Deems v. Baltimore, 80 Md. 164; 30 Atl. 648; 26 L. R. A. 541; 45 Am. S. R. 339.

State v. Broadbelt, 89 Md. 565; 43 Atl. 771; 45 L. R. A. 433; 73 Am. S. R. 201.

Creaghan v. Baltimore, 132 Md. 442; 104 Atl. 180.

MASSACHUSETTS.

Comm. v. Farren, 9 Allen 489.

Comm. v. Waite, 11 Allen 264; 87 Am. Dec. 711.

Comm. v. Raymond, 97 Mass. 567.

Comm. v. Wentworth, 118 Mass. 441.

Comm. v. Luscomb, 130 Mass. 42.

Comm. v. Evans, 132 Mass. 11.

Comm. v. Carter, 132 Mass. 13.

- Comm. v. Bowes*, 140 Mass. 483.
Comm. v. Schaffner, 146 Mass. 512; 16 N. E. 280.
Comm. v. Gray, 150 Mass. 327.
Comm. v. Wetherbee, 153 Mass. 159; 26 N. E. 114.
Comm. v. Tobias, 153 Mass. 129.
Comm. v. Gordon, 159 Mass. 8; 38 N. E. 709.
Comm. v. Wheeler, 205 Mass. 384; 91 N. E. 415; 137 Am. S. R. 456; 18 Ann. Cas. 319.
Comm. v. Drew, 208 Mass. 493.
Comm. v. Boston White Cross Milk Co., 209 Mass. 30; 95 N. E. 85; Ann. Cas. 1912 B. 386.
Comm. v. Elm Farm Milk Co., 221 Mass. 68; 108 N. E. 911.

MINNESOTA.

- Knobloch v. C., M. & St. P. Ry.*, 31 Minn. 402.
Butler v. Chambers, 36 Minn. 69.
Duluth v. Mallett, 43 Minn. 204.
State v. Nelson, 66 Minn. 166; 68 N. W. 1066; 34 L. R. A. 318; 61 Am. S. R. 399.
State v. Crescent Creamery Co., 83 Minn. 284; 86 N. W. 107; 54 L. R. A. 466; 85 Am. S. R. 464.
State v. Tetu, 98 Minn. 351; 108 N. W. 470.
Cobb v. French, 11 Minn. 429.
Nelson v. Minneapolis, 112 Minn. 16; 127 N. W. 445; 29 L. R. A. (N. S.) 260.

MISSISSIPPI.

- Hawkins v. Hoye*, 108 Miss. 282; 66 So. 741.

MISSOURI.

- St. Louis v. Schuler*, 190 Mo. 524; 89 S. W. 621; 1 L. R. A. (N. S.) 936.
St. Louis v. Grafeman Dairy Co., 190 Mo. 492; 89 S. W. 617; 1 L. R. A. (N. S.) 938.
St. Louis v. Liessing, 190 Mo. 464; 89 S. W. 611; 1 L. R. A. (N. S.) 918; 109 Am. S. R. 774; 4 Ann. Cas. 112.
St. Louis v. Polinsky, 190 Mo. 516; 89 S. W. 625.
St. Louis v. Scheer, 235 Mo. 721; 139 S. W. 434.
St. Louis v. Kellmann, 243 S. W. 134.

MONTANA.

- State v. McKinney*, 29 Mont. 375; 74 Pac. 1095; 1 Ann. Cas. 579.

NEBRASKA.

Littlefield v. State, 42 Neb. 223; 60 N. W. 724; 28 L. R. A. 588; 47 Am. S. R. 697.

NEW HAMPSHIRE.

State v. Campbell, 64 N. H. 402; 13 Atl. 585; 10 Am. S. R. 419.
State v. Marshall, 64 N. H. 549.

NEW JERSEY.

Shivers v. Newton, 45 N. J. L. 469.
Borden v. Board of Health of Montclair, 81 N. J. L. 218; 80 Atl. 30.

NEW YORK.

Blazier v. Miller, 70 Hun. 435.
Phelps v. Racey, 60 N. Y. 10.
Polinsky v. People, 73 N. Y. 65.
People v. Mulhollan, 82 N. Y. 324.
People v. Cipperly, 101 N. Y. 634, 4 N. E. 107.
People v. Kibler, 106 N. Y. 323; 12 N. E. 795.
People v. West, 106 N. Y. 293; 12 N. E. 610; 60 Am. Rep. 452.
People v. Biesecker, 169 N. Y. 53; 57 L. R. A. 178.
People v. Bowen, 182 N. Y. 1; 74 N. E. 489.
People v. Health Department, 189 N. Y. 187; 82 N. E. 187; 13 L. R. A. (N. S.) 894.
People v. Frudenberg, 209 N. Y. 218; 103 N. E. 166.
People v. Beakes Dairy Co., 222 N. Y. 416; 119 N. E. 115; 3 A. L. R. 1260.
People v. Hills, 64 App. Div. 584; 72 N. Y. Supp. 340.
People v. Koster, 121 App. Div. 852; 106 N. Y. Supp. 793.
People v. Abramson, 137 App. Div. 549; 122 N. Y. Supp. 115.
People v. Martin, 151 N. Y. Supp. 69.
People v. Hamilton, 161 N. Y. Supp. 425, 177 N. Y. Supp. 222.
People v. Wilson, 179 App. Div. 416, 166 N. Y. Supp. 211.
Mannix v. Frost, 168 N. Y. Supp. 1118.
Moll v. City of Lockport, 194 N. Y. Supp. 250.
People v. McGowan, 195 N. Y. Supp. 286.

NORTH CAROLINA.

Asheville v. Nettles, 164 N. C. 315; 80 S. E. 236.
State v. Kirkpatrick, 103 S. E. 65.
State v. Edwards, 121 S. E. 444.

NORTH DAKOTA.

Cofman v. Ousterhous, 40 N. D. 390; 168 N. W. 826; 18 A. L. R. 219.

OHIO.

Walton *v.* Toledo, 23 Oh. C. C. 547.

Jury *v.* State, 35 Oh. C. C. 514.

Kaiser *v.* Walsh, 40 N. P. N. S. 507; 17 Oh. S. & C. P. Dec. 324.

PENNSYLVANIA.

Allegheny *v.* Weiss, 139 Pa. St. 247.

Hill *v.* Fetherolf, 236 Pa. 70; 84 Atl. 677.

RHODE ISLAND.

State *v.* Smyth, 14 R. I. 100, 51 Am. Rep. 344.

State *v.* Graves, 15 R. I. 208.

TENNESSEE.

State *v.* Davis, 1 Tenn. C. C. A. 550.

TEXAS.

Teague *v.* State, 25 Tex. App. 577.

Sanchez *v.* State 27 Tex. App. 14.

VIRGINIA.

Norfolk *v.* Flynn, 101 Va. 473; 44 S. E. 717; 62 L. R. A. 771; 99 Am. S. R. 918.

WISCONSIN.

Pfeffer *v.* Milwaukee, 177 N. W. 850; 10 A. L. R. 128.

Nowatny *v.* Milwaukee, 140 Wis. 38; 121 N. W. 658; 133 Am. S. R. 1060.

Key to legal references.

The first figure gives the volume, then comes the reporter, and the last figure gives the page.

U. S., United States Supreme Court Reports.

L. Ed., Lawyers' Edition, United States Supreme Court.

S. Ct., Supreme Court Reports (U. S.).

Atl., Atlantic Reporter.

N. E., Northeastern Reporter.

N. W., Northwestern Reporter.

S. E., Southeastern Reporter.

S. W., Southwestern Reporter.

Pac., Pacific Reporter.

So., Southern Reporter.

L. R. A., Lawyers' Reports Annotated.

Am. S. R., American State Reports.

Ann. Cas., American and English Annotated Cases.

Am. Dec., American Decisions.

A. L. R., American Law Reports.

State Reporters are indicated by appropriate abbreviations.

See especially 18 A. L. R. 235 for an excellent article (1922) on this whole subject.

CANCER AND PROPRIETARY CURES.

From time to time the United States Public Health Service has called attention to the importance of early discovery and treatment in cancer. This disease, because of its insidious attack, being often painless and apparently trivial, frequently develops beyond the stage in which it might be amenable to treatment before it is properly diagnosed. A corollary of equal consequence to early diagnosis is that the thorough examination and treatment should be in the hands of a competent physician.

The American Society for the Control of Cancer has recently published in its monthly bulletin the article printed below, which presents some interesting statements regarding the methods frequently employed by persons exploiting so-called cancer cures.

It may be noted here that the American Society for the Control of Cancer was organized in 1913 "to collect, collate, and disseminate information concerning the symptoms, diagnosis, treatment, and prevention of cancer; to investigate conditions under which cancer is found; and to compile statistics." The society utilizes all available means to make known the practical bearing of present scientific knowledge of cancer, and endeavors to impress upon the public the value of early diagnosis and treatment. For several years it has carried on an extensive educational campaign against cancer. It is not organized for pecuniary gain; and it is supported entirely by private contributions and by the annual dues of its members.

Following is the article.

PROPRIETARY CURES FOR CANCER.

Due in part to the reports of an increasing prevalence of cancer and in part apparently to the acceleration of business in other directions throughout the United States, the promoters of cancer cures have recently become more active than ever before.

There is hardly a day that does not bring to the headquarters of the society inquiry from an anxious patient concerning the merits of a proprietary cure for cancer of which she has heard and upon which she is ready to pin the shreds of a vanishing hope, if only she can find authority for doing so. We say "she," for the correspondents are more often women than men.

The same mail which brings this inquiry not infrequently brings a letter which shows the other side of the picture. A person, generally a man, and a very illiterate one, has, through a train of romantic circumstances, come into possession of a secret cure for cancer and wants help in the exploitation of it. It is a remarkable cure; it never fails. This kind of letter takes many forms. The merits of the treatment may be claimed to lie in the preparation itself or in the administration of it.

Those who have cures to promote sometimes ask for an opportunity to demonstrate the efficacy of the treatment, or forward a sample of the preparation, or invite an investigation of it. Now and then a sample of the material is sent with the letter indorsing it. The substance may be in the form of a fluid, a powder, a paste, or a solid cake.

THE SOCIETY RECOMMENDS NO SUCH METHODS.

The answer which is made to correspondents who ask about proprietary cures is that the society does not indorse any of them. It advises all who are suffering from cancer to put their faith in the skill and experience of reliable physicians and pay no heed to the claims of those who pretend to possess secret cures of great potency. For, so far as the society is aware, there is at present no medical cure for cancer.

The reply which is sent to promoters is intended to appeal to any who may be capable of responding to a benevolent sentiment, and to warn others that they are on dangerous ground. They are told that the society does not test the efficacy of cures or the skill of those who administer them; that it is opposed to the commercial exploitation of any form of cures or treatments; that scientific men are eagerly searching for a medical cure for cancer; that, if anyone really has such a remedy and will give it to the world in the way in which great medical discoveries are customarily announced, he will become famous as one of the greatest benefactors of his race and will not want for money, for position, or anything that his fellowmen can give him.

These replies usually close the correspondence. But they do not always do so. When the promoter does not write again, it is not always to be supposed that he feels he has been well answered.

KINDS OF QUACK CURES.

The proprietary cures which are employed for the treatment of cancer are divisible into various classes; one includes materials which are applied to the cancer in the form of pastes or plasters, and another those which are administered internally.

The internal remedy is generally advertised as a remarkable, new, scientific discovery. It may be a serum and said to be prepared from

the body of a horse, or some other animal, which has been made immune toward cancers by inoculation, and which has developed a resistance which can be imparted to a person who is treated with the serum. Such methods are without efficacy. Examinations have been made of them by committees of medical men, who have always found that the claims of the promoters are without any foundation in fact. Cures by means of serums appeal strongly to persons who possess a little, but not much, medical knowledge, who have no faith in other methods of dealing with cancer, and who are attracted by the possibilities of what they take to be a new scientific discovery.

The cures which consist of the external application of some compound generally depend for such efficacy as they possess upon a caustic or other tissue-destroying substance. They are generally in the form of a paste. Such art as exists in connection with the application depends upon the ability of the practitioner to apply just enough of the substance to destroy the tumor and not injure too much of the healthy material which surrounds it.

Pastes and similar materials have been employed for many years. They are among the earliest means of dealing with cancer. They are not regarded with favor by well-trained physicians of the present time for a number of reasons. Among these reasons are the following:

They produce a great deal of pain; they are not like surgery, which is done under an anesthetic. Those who practice cancer treatment by this means sometimes, but not always, employ narcotics in order to relieve the patients' suffering. Again, cases of cancer which are treated by pastes frequently result in disfiguring scars. Some of these scars are frightful almost beyond belief.

ADVANTAGES OF SURGERY.

Nothing of this kind is likely to occur with surgery. Even though the surgical removal of a cancer requires a very extensive operation, the resulting scar may not be great. The appearance of the scar is under considerable control. It is under control by reason of the original operation, and because of the subsequent minor work which can be done. For example, a puckering or undue tension may be removed by a trifling surgical operation. If the visible results or operation require to be reduced as far as possible, the remarkable resources of plastic surgery may be brought to bear upon the case. Skin grafting may be used with such surprising results as to leave little evidence of the work which has been done. Nothing of this kind is possible with caustics or among the untrained persons who employ proprietary cures.

Surgery permits of an accuracy in diagnosis which can not be accomplished by other means. Many cases which appear to be cancer and

which, in spite of the experience of the most discerning persons, are of doubtful character, may be finally diagnosed only by removing a very small part of the growth and examining it under the microscope. Accurate diagnosis is of the utmost importance, for upon it depends not only the question of the operation which is to be performed upon the growth itself, but the extent of such operation. The promoters of cancer cures neither know anything nor can do anything in regard to the possible deeper extension of a malignant tumor. They attack the cancer which they can see, and if that is made to disappear they say their work is done. As the tissue is destroyed by the caustic, no microscopic diagnosis can be made; hence in such cases the diagnosis is always in doubt. The skillful surgeon does not consider that he has cured a case of cancer unless there is no recurrence of the disease for some years after the patient has apparently entirely recovered. Many cases of cancer which appear to have been cured without the knife end fatally by recurrence, after a short period of time, because deeper portions of the growth have not been reached by the caustic. Finally, the promoters of cancer cures which depend upon applications can deal only with what are known as accessible cancers. Cancers of the internal organs can neither be diagnosed nor treated by them.

THE SOCIETY INTERESTED.

The policy followed by the society in answering both the patients and the promoters is not always satisfactory from its own standpoint; that is, the standpoint of cancer control. More knowledge is desirable concerning some of these cures. The way in which they operate is, in general, known. Nine-tenths of them are believed to be not only worthless but positively harmful. But it is inconceivable that they are all utterly lacking in merit. It is possible that some may be helpful in alleviating the suffering which no earthly skill can cure. Perhaps there are some cases which they can cure. Who knows? Is it not possible, if it shuts its eyes to the work of unauthorized cures and unlicensed practitioners, that the society may close some avenue of information which can in some measure help in combating the cancer menace?

In the belief that the society should, if possible, assist in bringing to light such curative help as offers itself, the promoters of cancer cures are sometimes referred to institutes or hospitals which possess facilities for making such investigations as are required. This plan can not always be followed. The amount of work to be done is too great.

Cancer institutes and cancer hospitals have their regular work laid out for them and usually have insufficient facilities for making all the investigations which are required in order properly to test the efficacy

of cures. They could do more if they had more money to warrant the necessary expenses of the additional work.

THE PUBLIC VERSUS THE PROFESSIONAL VIEWPOINT.

It is curious to note the difference which exists between the attitude of the public and that of the medical profession with reference to the possible means of curing cancer. The most eminent members of the medical profession, both in Europe and America, almost unanimously hold the opinion that surgery and radiation afford the only present hope of curing cancer and that even then the disease must be taken in its early stages to offer any prospect of cure. But, in spite of its manifold accomplishments, surgery is not popular. The public dreads "the knife" and eagerly places reliance upon any remedy which promises to cure the disease without it. Most physicians doubt the possibility of ever curing cancer by medicine. The public, however, is constantly expecting a medical cure. The proprietor of a great daily newspaper, Lord Atholstan, of the Montreal Star, has offered \$100,000 for a medical cure for cancer.

The confidence which seems to be instinctive in most people to heed anyone who makes a firm assertion of authority, coupled with the natural preference for medical over surgical treatment, lies at the basis of the very large business which is being done throughout the country by the successful promoters of proprietary cancer cures. These promoters are commonly called "quacks." And quacks many of them are, if by that term is meant persons who make use of commercial methods of advertising in order to attract patients.

QUACKS, LAY AND MEDICAL.

The work of quacks is of peculiar interest to those who are devoted to the cause of cancer control. Their methods must be taken fully into account. There seem to be more quacks in the cancer field than in any other. Their number in the United States is very great. Their influence extends into every town and hamlet. The number of patients treated by them is large. There are quack hospitals with complete staffs, large buildings, and every appearance of sound financial backing. There are innumerable practitioners who do what may be called a small retail business. There are concerns which manufacture and supply cancer cures upon a mail-order basis.

The claims of the quacks are heard and heeded not only by people who have no knowledge of medical subjects, but unfortunately, also, by not a few doctors who have a license to practice, but whose fundamental training is inferior, and who do not follow the methods employed by progressive physicians to keep themselves informed of the advances in knowledge in their profession.

These doctors buy cures and use them in their practice just as they buy and use scores of other proprietary remedies whose sale depends upon the clever ways in which they are advertised.

SUPPRESSION OF FRAUDS.

It may be surprising to some to learn that there are a great number of proprietary cancer cures being exploited without legal or other interference.

The truth is, the subject of prosecuting and suppressing frauds of this kind is beset by many difficulties. For one thing, it is difficult to prove that the material used or the method of treatment can not produce a beneficial effect. It is also difficult to show that there is an intention to deceive the patients.

In some States the practice of medicine without a license is in itself ground for legal prosecution, but it is often possible to evade this requirement.

Failure to secure a prompt and adequate punishment of offenders may be turned greatly to their advantage. They may sue those who make an unsuccessful attempt to punish them and use the suit as a means of advertising their pretensions. This course has been followed often.

In some instances the United States Government has procured fraud orders against the proprietors of fraudulent cancer cures and treatments. Inasmuch as a great deal of the business of irregular practitioners is done through the mails, this has occasionally been found a satisfactory procedure.

In other instances investigations have been made by associations of physicians and the results given as much publicity as possible. For years the physicians of the United States have carried on a campaign against fraudulent cancer cures and treatments through their largest association. This organization is the American Medical Association. It is made up of more than 85,000 physicians, among them being the leading members of the medical profession of the country.

The association publishes weekly the *Journal of the American Medical Association*, which has a circulation averaging 76,000 weekly. This far exceeds the circulation of any other medical journal in the world. The *Journal* has a department called "Propaganda for reform," whose primary object is the dissemination of information on the nostrum evil, quackery, and allied subjects. It collects its information through original investigations, supplemented, when necessary, by analytical work; from data received from State and municipal health boards and from Federal reports; from information published in technical and other journals; and from reports of special commis-

sions. The headquarters of the association are at 533 North Dearborn Street, Chicago.

One of the interesting pamphlets prepared and issued by the propaganda department of the Journal is called "Cancer 'cures' and 'treatments.'" This pamphlet of 63 pages describes some of the most flagrant instances of cancer frauds which have been known in the United States. A reading of it will convince any thoughtful person of the profits made by unscrupulous persons in promoting cancer cures and will show the large amount of harm which may be done in this direction.

The whole story is not told by any means by this pamphlet. It makes record of but a few typical instances of imposition. It gives no account, for example, of some of the large and elaborate samples of advertising which come to the office of the American Society for the Control of Cancer. Some of these are books expensively gotten up. They sometimes have photographs of the proprietors, pictures of extensive buildings and grounds connected with the so-called sanatoria, pages of testimonials, and every appearance of responsibility and worth.

What medical frauds dread most is publication of the truth about their business.

The entire subject of cancer "cures" and cancer "treatments," including the practices of exponents of cults, should be investigated in a comprehensive and thoroughgoing manner and the results widely published. It would be eminently appropriate for the American Society for the Control of Cancer to carry on this work. The effort would unquestionably result in the saving of many lives. It would save thousands of dollars to persons who can ill afford to submit to the extortionate practices of the unscrupulous men and women who now prey upon them. The society would be glad to make this investigation if it had the money with which to pay the necessary expenses involved.

DEATHS DURING WEEK ENDED JULY 5, 1924.

Summary of information received by telegraph from industrial insurance companies for week ended July 5, 1924, and corresponding week of 1923. (From the Weekly Health Index, July 8, 1924, issued by the Bureau of the Census, Department of Commerce.)

	Week ended July 5, 1924.	Corresponding Week, 1923.
Policies in force.....	56, 376, 346	52, 789, 841
Number of death claims.....	7, 487	8, 048
Death claims per 1,000 policies in force, annual rate.....	6.9	7.9

Deaths from all causes in certain large cities of the United States during the week ended July 5, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, July 8, 1924, issued by the Bureau of the Census, Department of Commerce.)

City.	Week ended July 5, 1924.		Annual death rate per 1,000 corresponding week, 1923.	Deaths under 1 year.		Infant mortality rate, week ended July 5, 1924. ²
	Total deaths.	Death rate. ¹		Week ended July 5, 1924.	Corresponding week, 1923.	
Total (65 cities).....	5,454	10.5	³ 10.4	598	³ 619	.....
Akron.....	19	.....	.....	3	3	32
Albany.....	24	10.6	12.4	4	5	91
Atlanta.....	68	14.4	18.9	7	14	.....
Baltimore.....	159	10.6	12.2	23	16	68
Birmingham.....	40	10.4	13.8	6	6	.....
Boston.....	176	11.8	9.9	18	19	50
Bridgeport.....	21	.....	.....	2	3	32
Buffalo.....	108	10.3	10.1	12	15	51
Cambridge.....	18	8.4	11.2	3	4	52
Camden.....	26	10.7	11.8	6	4	98
Chicago.....	490	8.7	9.1	49	54	46
Cincinnati.....	98	12.5	14.2	13	11	81
Cleveland.....	129	7.4	9.2	19	16	48
Columbus.....	59	11.5	10.4	7	2	66
Dallas.....	45	12.5	10.3	10	5	.....
Dayton.....	24	7.4	9.1	1	1	17
Denver.....	69	.....	.....	2	3	.....
Des Moines.....	21	7.5	10.7	1	1	.....
Detroit.....	190	.....	.....	44	41	82
Duluth.....	20	9.6	4.9	7	1	132
Erie.....	26	.....	.....	3	1	62
Fall River.....	25	10.8	9.9	3	1	42
Flint.....	18	.....	.....	4	3	69
Fort Worth.....	18	6.3	5.1	2	0	.....
Grand Rapids.....	22	7.7	8.2	1	6	16
Houston.....	46	.....	.....	5	5	.....
Indianapolis.....	78	11.6	15.4	4	5	29
Jacksonville, Fla.....	26	13.2	21.4	6	6	.....
Jersey City.....	62	10.4	10.5	7	15	50
Kansas City, Kans.....	28	12.4	13.5	5	3	96
Kansas City, Mo.....	78	11.3	13.9	9	14	.....
Los Angeles.....	198	.....	.....	32	11	100
Louisville.....	65	13.1	13.6	7	11	65
Lowell.....	28	12.6	10.0	4	3	71
Lynn.....	28	14.1	9.1	1	3	25
Memphis.....	64	19.4	23.9	10	9	.....
Milwaukee.....	72	7.6	6.7	12	11	66
Minneapolis.....	72	9.0	9.0	14	8	64
Nashville.....	35	14.8	20.4	3	10	.....
New Bedford.....	24	9.4	7.6	1	2	16
New Haven.....	39	11.6	10.6	9	2	119
New Orleans.....	94	12.0	14.4	11	16	.....
New York.....	1,101	9.5	8.9	125	118	51
Bronx Borough.....	129	7.7	7.7	14	9	49
Brooklyn Borough.....	380	9.0	8.5	49	44	52
Manhattan Borough.....	469	10.8	9.9	51	59	52
Queens Borough.....	89	8.4	7.4	7	6	35
Richmond Borough.....	34	13.6	11.4	4	0	73
Newark, N. J.....	71	8.3	9.6	7	5	33
Norfolk.....	30	9.5	8.5	7	8	125
Oakland.....	49	10.3	8.5	5	4	63
Oklahoma City.....	29	14.5	.....	5	.....	.....
Omaha.....	33	8.3	13.3	4	3	43
Paterson.....	24	8.9	10.5	3	0	51
Philadelphia.....	459	12.3	8.9	29	42	37
Pittsburgh.....	162	13.5	10.5	26	17	88
Portland, Oreg.....	47	8.8	10.9	4	8	41
Providence.....	60	12.8	11.4	5	15	41
Richmond.....	27	7.7	15.3	5	8	61
Rochester.....	61	9.8	.....	7	.....	55
St. Louis.....	187	12.0	11.5	14	14	.....
St. Paul.....	39	8.3	9.9	2	5	17
Salt Lake City.....	71	28.8	8.3	1	5	20

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1923. Cities left blank are not in the registration area for births.

³ Data for 63 cities.

⁴ Deaths for week ended Friday, July 4, 1924.

Deaths from all causes in certain large cities of the United States during the week ended July 5, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, July 8, 1924, issued by the Bureau of the Census, Department of Commerce—Continued.)

City.	Week ended July 5, 1924.		Annual death rate per 1,000 corresponding week, 1923.	Deaths under 1 year.		Infant mortality rate, week ended July 5, 1924.
	Total deaths.	Death rate.		Week ended July 5, 1924.	Corresponding week, 1923.	
San Antonio.....	66	18.0	13.5	6	9	-----
San Francisco.....	126	12.0	13.1	7	8	42
Schenectady.....	16	8.3	9.5	0	2	0
Seattle.....	53	-----	-----	1	3	10
Somerville.....	19	9.9	9.0	0	3	0
Spokane.....	31	-----	-----	3	4	66
Springfield, Mass.....	23	8.1	9.4	1	1	17
Syracuse.....	37	10.3	13.0	4	6	50
Tacoma.....	19	9.6	8.2	2	2	48
Toledo.....	67	12.6	10.3	8	7	75
Trenton.....	29	11.7	11.1	5	3	83
Utica.....	22	10.9	6.6	0	1	0
Washington, D. C.....	122	13.1	11.2	12	12	70
Waterbury.....	25	-----	-----	6	4	139
Wilmington, Del.....	16	7.0	8.4	1	1	22
Worcester.....	43	11.5	10.3	6	1	72
Yonkers.....	23	10.9	6.3	2	2	44
Youngstown.....	18	6.0	10.7	0	8	0

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

CURRENT WEEKLY STATE REPORTS.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

Reports for Week Ended July 12, 1924.

ALABAMA.	Cases.	ARKANSAS—continued.	Cases.
Chicken pox.....	6	Smallpox.....	11
Diphtheria.....	4	Trachoma.....	3
Dysentery.....	145	Tuberculosis.....	13
Influenza.....	5	Typhoid fever.....	33
Influenza (reported as "devil's grip").....	27	Whooping cough.....	31
Malaria.....	136		
Measles.....	63	CALIFORNIA.	
Mumps.....	29	Cerebrospinal meningitis:	
Ophthalmia neonatorum.....	1	Orange County.....	1
Paratyphoid fever.....	1	Paso Robles.....	1
Pellagra.....	13	Diphtheria.....	149
Pneumonia.....	12	Influenza.....	3
Polioimyelitis.....	1	Leprosy—Los Angeles.....	1
Scarlet fever.....	5	Lethargic encephalitis—San Francisco.....	1
Smallpox.....	29	Measles.....	120
Tuberculosis.....	28	Polioimyelitis—Stockton.....	1
Typhoid fever.....	48	Scarlet fever.....	54
Whooping cough.....	38	Smallpox:	
		Los Angeles.....	28
ARIZONA.		Los Angeles County.....	22
Diphtheria.....	1	Scattering.....	38
Measles.....	20	Typhoid fever.....	20
Scarlet fever.....	4		
Smallpox.....	1	COLORADO.	
Tuberculosis.....	1	(Exclusive of Denver.)	
Typhoid fever.....	5	Chicken pox.....	10
		Diphtheria.....	7
ARKANSAS.		Influenza.....	3
Chicken pox.....	4	Measles.....	16
Diphtheria.....	1	Mumps.....	3
Hookworm disease.....	4	Pneumonia.....	3
Influenza.....	25	Scarlet fever.....	5
Malaria.....	171	Smallpox.....	1
Measles.....	28	Tuberculosis.....	12
Mumps.....	22	Typhoid fever.....	2
Pellagra.....	14	Whooping cough.....	14
Scarlet fever.....	7		

CONNECTICUT.		ILLINOIS—continued.	
	Cases.		Cases.
Cerebrospinal meningitis.....	1	Poliomyelitis—Continued.	
Chicken pox.....	32	Greene County.....	1
Diphtheria.....	36	Madison County.....	1
German measles.....	3	Scarlet fever:	
Malaria.....	1	Cook County.....	76
Measles.....	71	Scattering.....	48
Mumps.....	38	Smallpox:	
Pneumonia (lobar).....	8	Chicago.....	6
Poliomyelitis.....	2	Lake County.....	18
Scarlet fever.....	43	Madison County.....	15
Smallpox.....	6	Scattering.....	10
Tuberculosis (all forms).....	48	Tuberculosis.....	249
Typhoid fever.....	7	Typhoid fever.....	28
Whooping cough.....	35	Whooping cough.....	102
DELAWARE.		INDIANA.	
Measles.....	2	Chicken pox.....	9
Mumps.....	2	Diphtheria.....	27
Scarlet fever.....	1	Influenza.....	2
Whooping cough.....	4	Measles.....	65
DISTRICT OF COLUMBIA.		Mumps.....	1
Chicken pox.....	15	Pneumonia.....	3
Diphtheria.....	4	Scarlet fever.....	31
Influenza.....	1	Smallpox.....	30
Measles.....	5	Tuberculosis.....	35
Scarlet fever.....	11	Typhoid fever.....	10
Tuberculosis.....	32	Whooping cough.....	33
Typhoid fever.....	3	IOWA.	
Whooping cough.....	25	Diphtheria.....	8
FLORIDA.		Scarlet fever.....	11
Diphtheria.....	9	Smallpox.....	6
Influenza.....	7	Typhoid fever.....	1
Malaria.....	33	KANSAS.	
Pneumonia.....	3	Chicken pox.....	11
Poliomyelitis.....	1	Diphtheria.....	11
Typhoid fever.....	13	Malaria.....	1
GEORGIA.		Measles.....	16
Chicken pox.....	1	Mumps.....	52
Diphtheria.....	1	Pneumonia.....	16
Dysentery (bacillary).....	6	Scarlet fever.....	21
Hookworm disease.....	10	Smallpox.....	17
Influenza.....	1	Tetanus.....	3
Malaria.....	25	Tuberculosis.....	54
Measles.....	1	Typhoid fever.....	11
Mumps.....	11	Whooping cough.....	74
Scarlet fever.....	2	LOUISIANA.	
Smallpox.....	2	Anthrax.....	1
Tetanus.....	1	Cerebrospinal meningitis.....	1
Tuberculosis (pulmonary).....	8	Diphtheria.....	4
Typhoid fever.....	29	Malaria.....	35
Whooping cough.....	5	Measles.....	10
ILLINOIS.		Pellagra.....	17
Cerebrospinal meningitis—Cook County.....	1	Pneumonia.....	57
Diphtheria:		Scarlet fever.....	1
Cook County.....	68	Tuberculosis.....	63
Scattering.....	23	Typhoid fever.....	33
Influenza.....	46	Whooping cough.....	6
Lethargic encephalitis—Cook County.....	1	MAINE.	
Measles.....	266	Chicken pox.....	14
Pneumonia.....	176	Conjunctivitis (infectious).....	2
Poliomyelitis:		Diphtheria.....	10
Cass County.....	1	German measles.....	4
Cook County.....	2	Influenza.....	1

MAINE—continued.

	Cases.
Measles.....	35
Mumps.....	24
Pneumonia.....	7
Scarlet fever.....	26
Septic sore throat.....	2
Tetanus.....	1
Tuberculosis.....	7
Typhoid fever.....	31
Whooping cough.....	39

MARYLAND.¹

Cerebrospinal meningitis.....	1
Chicken pox.....	30
Diphtheria.....	14
Dysentery.....	3
German measles.....	1
Influenza.....	5
Lethargic encephalitis.....	2
Measles.....	54
Mumps.....	12
Pneumonia (all forms).....	12
Poliomyelitis.....	1
Scarlet fever.....	25
Tuberculosis.....	71
Typhoid fever.....	23
Whooping cough.....	34

MASSACHUSETTS.

Cerebrospinal meningitis.....	1
Chicken pox.....	54
Conjunctivitis (suppurative).....	9
Diphtheria.....	106
German measles.....	9
Hookworm disease.....	1
Influenza.....	2
Lethargic encephalitis.....	2
Malaria.....	3
Measles.....	245
Mumps.....	84
Ophthalmia neonatorum.....	14
Pneumonia (lobar).....	37
Poliomyelitis.....	1
Scarlet fever.....	95
Septic sore throat.....	1
Smallpox.....	2
Trachoma.....	3
Trichinosis.....	1
Tuberculosis (all forms).....	165
Typhoid fever.....	12
Whooping cough.....	44

MICHIGAN.

Diphtheria.....	84
Measles.....	163
Pneumonia.....	39
Scarlet fever.....	124
Smallpox.....	62
Tuberculosis.....	105
Typhoid fever.....	18
Whooping cough.....	76

MINNESOTA.

Chicken pox.....	38
Diphtheria.....	29
Measles.....	18
Pneumonia.....	4

MINNESOTA—continued.

	Cases.
Scarlet fever.....	100
Smallpox.....	49
Tuberculosis.....	86
Typhoid fever.....	12
Whooping cough.....	8

MISSISSIPPI.

Diphtheria.....	4
Scarlet fever.....	1
Smallpox.....	1
Typhoid fever.....	21

MISSOURI.

Chicken pox.....	8
Diphtheria.....	31
Measles.....	38
Mumps.....	28
Pneumonia.....	6
Scarlet fever.....	59
Smallpox.....	13
Tetanus.....	2
Trachoma.....	10
Tuberculosis.....	45
Typhoid fever.....	12
Whooping cough.....	43

MONTANA.

Diphtheria.....	10
Rocky Mountain spotted fever—Edgar.....	1
Scarlet fever.....	6
Smallpox.....	6
Typhoid fever.....	3

NEBRASKA.

Chicken pox.....	6
Diphtheria.....	6
Measles.....	3
Mumps.....	4
Scarlet fever.....	7
Smallpox.....	13
Tuberculosis.....	1
Typhoid fever.....	5
Whooping cough.....	9

NEW JERSEY.

Chicken pox.....	45
Diphtheria.....	50
Dysentery.....	1
Influenza.....	4
Malaria.....	2
Measles.....	221
Pneumonia.....	49
Poliomyelitis.....	1
Scarlet fever.....	70
Smallpox.....	1
Trachoma.....	1
Typhoid fever.....	4
Whooping cough.....	192

NEW MEXICO.

Diphtheria.....	10
Influenza.....	1
Measles.....	22
Mumps.....	4
Pneumonia.....	1
Scarlet fever.....	5
Tuberculosis.....	73

¹ Week ended Friday.

NEW MEXICO—continued.	
	Cases.
Typhoid fever.....	10
Vincent's angina.....	1
Whooping cough.....	1

NEW YORK.

(Exclusive of New York City.)

Diphtheria.....	57
Influenza.....	1
Lethargic encephalitis.....	2
Measles.....	613
Pneumonia.....	75
Polioimyelitis.....	2
Scarlet fever.....	111
Smallpox.....	3
Typhoid fever.....	21
Whooping cough.....	239

NORTH CAROLINA.

Cerebrospinal meningitis.....	2
Chicken pox.....	22
Diphtheria.....	20
Measles.....	75
Scarlet fever.....	17
Smallpox.....	53
Typhoid fever.....	73
Whooping cough.....	264

NORTH DAKOTA.

Diphtheria.....	2
Measles.....	5
Pneumonia.....	2
Scarlet fever.....	21
Smallpox.....	7
Tuberculosis.....	1
Typhoid fever.....	5
Whooping cough.....	2

OREGON.

Cerebrospinal meningitis.....	11
Chicken pox.....	13
Diphtheria.....	19
Measles.....	7
Mumps.....	2
Pneumonia.....	13
Scarlet fever.....	11
Smallpox.....	2
Tuberculosis.....	16
Typhoid fever.....	6
Whooping cough.....	5

SOUTH DAKOTA.

Chicken pox.....	10
Diphtheria.....	7
Measles.....	34
Mumps.....	1
Scarlet fever.....	31
Typhoid fever.....	7
Whooping cough.....	9

TEXAS—

Chicken pox.....	11
Dengue.....	2
Diphtheria.....	29

1 Deaths.

TEXAS—continued.	
	Cases.
Dysentery.....	19
Influenza.....	6
Leprosy.....	1
Measles.....	81
Mumps.....	13
Paratyphoid fever.....	4
Pellagra.....	7
Pneumonia.....	7
Scarlet fever.....	10
Smallpox.....	20
Trachoma.....	3
Tuberculosis.....	39
Typhoid fever.....	15
Typhus fever.....	1
Whooping cough.....	52

VIRGINIA.

Polioimyelitis—Halifax County.....	1
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WASHINGTON.

Chicken pox.....	55
Diphtheria.....	20
Measles.....	12
Mumps.....	10
Polioimyelitis—Chelan County.....	1
Scarlet fever.....	16
Smallpox.....	33
Trachoma.....	1
Tuberculosis.....	25
Typhoid fever.....	9
Whooping cough.....	6

WEST VIRGINIA.

Diphtheria.....	6
Measles.....	38
Scarlet fever.....	7
Typhoid fever.....	1

WISCONSIN.

Milwaukee:	
Chicken pox.....	33
Diphtheria.....	10
Lethargic encephalitis.....	1
Measles.....	26
Pneumonia.....	1
Scarlet fever.....	13
Tuberculosis.....	24
Typhoid fever.....	1
Whooping cough.....	25
Scattering:	
Chicken pox.....	37
Diphtheria.....	25
German measles.....	4
Influenza.....	16
Lethargic encephalitis.....	1
Measles.....	119
Pneumonia.....	10
Polioimyelitis.....	1
Scarlet fever.....	69
Smallpox.....	15
Tuberculosis.....	21
Typhoid fever.....	2
Whooping cough.....	61

WYOMING.		WYOMING—continued.	
	Cases.		Cases.
Cerebrospinal meningitis.....	1	Rocky Mountain spotted fever.....	4
Chicken pox.....	3	Smallpox.....	1
Diphtheria.....	3	Tuberculosis.....	1
Measles.....	11	Typhoid fever.....	3
Mumps.....	7	Whooping cough.....	4
Pneumo. i.....	2		

Reports for Week Ended July 5, 1924.

DISTRICT OF COLUMBIA		NEBRASKA.	
	Cases.		Cases.
Chicken pox.....	12	Cerebrospinal meningitis.....	1
Diphtheria.....	3	Diphtheria.....	10
Measles.....	7	Measles.....	9
Scarlet fever.....	10	Scarlet fever.....	3
Smallpox.....	2	Smallpox.....	3
Tuberculosis.....	30	Typhoid fever.....	1
Typhoid fever.....	1	Whooping cough.....	10
Whooping cough.....	4		

SUMMARY OF MONTHLY REPORTS FROM STATES.

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Polio-myelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
<i>May, 1924.</i>										
Ohio.....	6	376	26	3	3,587	0	3	951	719	80
<i>June, 1924.</i>										
North Dakota.....		41			84			97	61	8
Oklahoma.....	2	17	34		728	2		13	105	24
Vermont.....		16			336			48	1	1

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES.

Diphtheria.—For the week ended June 28, 1924, 32 States reported 1,274 cases of diphtheria. For the week ended June 30, 1923, the same States reported 1,250 cases. One hundred and one cities situated in all parts of the country and having an aggregate population of about 28,600,000, reported 874 cases of diphtheria for the week ended June 28, 1924. Last year for the corresponding week they reported 776 cases. The estimated expectancy for these cities was 786 cases. The estimated expectancy was based on the experience of the last nine years, excluding epidemics.

Measles.—Twenty-seven States reported 4,341 cases of measles for the week this year and 9,372 cases for the week last year. One hundred and one cities reported 1,854 cases of measles for the week this year and 3,151 cases last year.

Scarlet fever.—Scarlet fever was reported for the week as follows: Thirty-two States—this year, 1,473 cases; last year, 1,224 cases. One hundred and one cities—this year, 716 cases; last year, 575 cases; estimated expectancy, 455 cases.

Smallpox.—Thirty-two States reported 739 cases of smallpox for the week ended June 28, 1924. For the corresponding week of last

year they reported 245 cases. One hundred and one cities reported smallpox for the week as follows: 1924, 231 cases; 1923, 61 cases; estimated expectancy, 111 cases. Seven deaths from smallpox were reported from the cities during the week in 1924.

Typhoid fever.—Two hundred and ninety-three cases of typhoid fever were reported for the week ended June 28, 1924, by 31 States. For the corresponding week of last year the number of cases was 441. One hundred and one cities reported 89 cases of typhoid fever for the week this year and 125 cases for the week last year.

Influenza and pneumonia.—Pneumonia deaths were reported for the week by 101 cities as follows: 1924, 431; 1923, 429. These cities reported 13 deaths from influenza for the week this year and the same number last year.

City reports for week ended June 28, 1924.

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence how many cases of the disease under consideration may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding week of the preceding years. When the reports include several epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during non-epidemic years. If reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1915 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviations from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Meas- les, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.		
		Cases, es- timated ex- pectancy.	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, es- timated ex- pectancy.	Cases re- ported.	
NEW ENGLAND.											
Maine:											
Lewiston	0	0	0	0	0	13	0	1	2	3	
Portland	2	2	2	0	0	4	28	0	1	1	
New Hampshire:											
Concord	0	0	0	0	0	3	0	1	0	0	
Nashua	0	1	0	0	0	0	0	0	1	2	
Vermont:											
Barre	0	0	0	0	0	0	0	0	0	0	
Burlington	1	0	1	0	0	5	0	1	1	2	
Massachusetts:											
Boston	29	49	49	1	1	70	14	7	23	49	
Fall River	1	2	2	0	0	0	2	2	2	4	
Springfield	3	2	3	0	0	9	12	1	2	2	
Worcester	8	4	4	0	0	7	3	0	3	6	
Rhode Island:											
Pawtucket	0	1	2	0	0	0	0	0	0	2	
Providence	0	8	5	0	0	0	0	7	4	9	
Connecticut:											
Bridgeport	0	4	1	0	0	0	0	0	2	12	
Hartford	0	5	9	0	0	18	13	0	2	1	
New Haven	12	2	1	0	0	9	5	4	1	6	
MIDDLE ATLANTIC.											
New York:											
Buffalo	0	11	0	0	0	4	0	6	18	7	
New York	234	286	9	3	437	109	134	81	123		
Rochester	3	7	0	0	0	27	9	0	5	12	
Syracuse	12	5	7	0	0	15	8	0	5	3	
New Jersey:											
Camden	4	4	3	0	0	3	3	3	1	0	
Newark	14	6	0	0	0	78	5	10	8	8	
Trenton	3	4	0	0	0	4	1	3	1	4	
Pennsylvania:											
Philadelphia	48	53	0	157	28	34	42				
Pittsburgh	50	15	31	0	47	56	21	11	24		
Reading	10	2	1	0	2	27	0	1	3		
Scranton	0	2	2	0	0	3	1	3	1	1	

City reports for week ended June 28, 1924—Continued.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Meas- les, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.		
		Cases, esti- mated expect- ancy.	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, esti- mated expect- ancy.	Cases re- ported.	
EAST NORTH CENTRAL.											
Ohio:											
Cincinnati.....	10	9	2	0	1	15	10	5	4		
Cleveland.....	61	19	6	0	0	107	64	17	13	7	
Columbus.....	9	2	3	0	0	3	2	2	3	2	
Toledo.....	24	5	3	0	0	47	1	3	11	7	
Indiana:											
Fort Wayne.....		1	2	0	0	21		2	1	1	
Indianapolis.....		4	2	0	0	46		10	5	1	
South Bend.....	8	1	2	0	0	11	2	0	1	9	
Terre Haute.....	5	0	0	0	0	0	0	0	1	1	
Illinois:											
Chicago.....	120	100	56	3	1	209	68	30	45	62	
Cicero.....	0	2	0	0	0	1	1	3	0	0	
Springfield.....		1	3	1	1	2		1	1	0	
Michigan:											
Detroit.....	96	45	45	1	0	91	26	16	36	48	
Flint.....	8	1	2	0	0	4	2	3	2	4	
Grand Rapids.....	9	3	3	0	0	11	10	1	2	4	
Saginaw.....	2	1	3	0	0	10	0	1	1	4	
Wisconsin:											
Madison.....	7	0	0	0	0	3	1	0	1	1	
Milwaukee.....	69	12	9	0	0	41	13	0	16	15	
Racine.....	4	1	1	0	0	0		1	1	1	
Superior.....	0	1	0	0	0	0		0	2	1	
WEST NORTH CENTRAL.											
Minnesota:											
Duluth.....	5	2	0	0	0	9	0	1	3	9	
Minneapolis.....	41	10	5	0	0	5	1	1	12	25	
St. Paul.....		9	9	0	0	4		2	8	12	
Iowa:											
Des Moines.....	1	1	1	0		0	0		2	3	
Sioux City.....	0	1	0	0		1	1		2	0	
Waterloo.....	0	1	0	0		0	3		2	1	
Missouri:											
Kansas City.....	9	5	1	0	0	8	6	3	2	5	
St. Joseph.....	0	1	0	0	0	0	2	0	0	2	
St. Louis.....	14	29	20	0	0	32	24		10	43	
North Dakota:											
Fargo.....	0	0	0	0	0	0	0	1	0	0	
Grand Forks.....	0	0	0	0	0	0	0	0	1	0	
South Dakota:											
Aberdeen.....	1		0	0		6				0	
Sioux Falls.....	6	0	0	0	0	0	0	0	1	0	
Nebraska:											
Lincoln.....		1	3	0	0	0		2	1	1	
Omaha.....	4	2	0	0	0	2	0	2	3	0	
Kansas:											
Topeka.....	7	1	1	0	0	1	12	1	0	5	
Wichita.....	0	1	0	0	0	1	2	0	1	0	
SOUTH ATLANTIC.											
Delaware:											
Wilmington.....	0	1	0	0	0	0	1	0	2	1	
Maryland:											
Baltimore.....	51	11	16	3	4	98	9	19	9	20	
Cumberland.....		0	0	0	0	0		2	1	0	
Frederick.....	0	0	0	0	0	0	0	0	0	0	
District of Col.:											
Washington.....	19	7	3	0	0	8	0	11	5	11	
Virginia:											
Lynchburg.....	0	0	0	0	0	0	3	1	0	0	
Norfolk.....	1	0	0	0	0	1	6	2	1	0	
Richmond.....	3	1	1	0	0	55	0	0	1	1	
Roanoke.....	3	1	0	0	0	1	2	1	0	0	
West Virginia:											
Charleston.....	0	1	0	0	0	13	5	0	1	0	
Huntington.....	0	1	1	0	0	0	0	0	0	1	
Wheeling.....	8	0	0	0	0	8	0	1	1	5	
North Carolina:											
Raleigh.....	3	0	0	0	0	1	0	1	0	0	
Wilmington.....	0	0	0	0	0	0	1	2	1	0	
Winston-Salem.....		0	0	0	0	0		3	1	0	

City reports for week ended June 28, 1924—Continued.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Meas- les, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.		
		Cases, esti- mated expect- ancy.	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, esti- mated expect- ancy.	Cases re- ported.	
SOUTH ATLANTIC— continued.											
South Carolina:											
Charleston.....	0	0	0	0	0	0	0	2	0	0	0
Columbia.....	4	0	0	0	0	2	5	0	0	0	0
Greenville.....	0	0	0	0	0	0	0	0	0	0	0
Georgia:											
Atlanta.....	0	1	0	1	0	0	0	4	1	5	0
Brunswick.....	1	0	0	0	0	0	0	0	0	0	0
Savannah.....	0	1	0	0	0	0	0	1	0	0	0
Florida:											
St. Petersburg.....											
Tampa.....	0	0	0	0	0	0	0	0	0	0	0
EAST SOUTH CENTRAL.											
Kentucky:											
Covington.....	1	1	2	0	0	2	0	0	1	0	0
Lexington.....	3	0	0	0	0	4	0	2	0	0	0
Louisville.....	2	5	3	0	0	4	3	2	2	1	0
Tennessee:											
Memphis.....	0	1	1	0	0	8	3	4	1	0	0
Nashville.....		0	0	0	2	4		2	1	0	0
Alabama:											
Birmingham.....	4	1	2	0	0	1	28	7	1	0	0
Mobile.....	0	1	0	0	0	0	0	0	0	0	0
Montgomery.....	0	1	0	0	0	0	0	0	1	0	0
WEST SOUTH CENTRAL.											
Arkansas:											
Fort Smith.....	0	0	0	0	0	3	3	0	0	0	0
Little Rock.....	0	0	0	0	0	0	2	1	0	1	0
Louisiana:											
New Orleans.....	0	5	6	0	0	1	0	5	1	3	0
Shreveport.....	0		1	0	0	0	0	0		0	0
Oklahoma:											
Oklahoma.....	0	1	0	0	0	0	0	2	1	0	0
Tulsa.....	2	0	1	0	0	0	1	0	1	0	0
Texas:											
Dallas.....	5	3	0	0	0	0	2	3	1	0	0
Galveston.....	0	0	0	0	0	0	0	0	0	0	0
Houston.....		1	6	0	0	0		1	0	2	1
San Antonio.....	0	1	2	0	0	1	0	2	1		
MOUNTAIN.											
Montana:											
Billings.....	10	0	0	0	0	1	0	0	0	1	0
Great Falls.....	0	0	6	0	0	0	0	1	1	0	0
Helena.....	0		0	0	0	0	0	0		0	0
Missoula.....	0	0	1	0	0	0	0	0	0	0	0
Idaho:											
Boise.....	3	0	0	0	0	2	0	0	1	0	0
Colorado:											
Denver.....	15	8	21	0	0	23	7	5	6	6	2
Pueblo.....	2	1	1	0	0	1	2	1	1	2	0
New Mexico:											
Albuquerque.....	0	1	0	0	0	0	1	2	1	0	0
Utah:											
Salt Lake City.....	19	2	1	0	0	8	6	5	2	3	0
Nevada:											
Reno.....	0	0	0	0	0	0	0	0	0	0	0
PACIFIC.											
Washington:											
Seattle.....	12	5	11	0		0	2		6	10	0
Spokane.....	30	2	22	0		1	0		3	9	0
Tacoma.....	6	2	14	0		1	0		1	5	0
Oregon:											
Portland.....	9	4	9	0	0	2	0	2	5	5	0
California:											
Los Angeles.....	54	25	74	0	0	70	12	14	8	27	0
Sacramento.....	2	1	15	0	0	10	0	2	1	2	0
San Francisco.....		14							8		0

City reports for week ended June 28, 1924—Continued.

Division, State, and city.	Population, July 1, 1923, estimated.	Smallpox.			Tuberculosis, deaths reported.	Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.		Cases, estimated expectancy.	Cases reported.	Deaths reported.		
NEW ENGLAND.										
Maine:										
Lewiston.....	33,700	0	0	0	0	0	0	0	2	6
Portland.....	73,129	0	0	0	0	1	0	0	4	18
New Hampshire:										
Concord.....	22,408	0	0	0	0	0	0	0	0	10
Nashua.....	29,234	0	0	0	0	0	0	0	0	5
Vermont:										
Barre.....	¹ 10,008	0	0	0	0	0	0	0	0	2
Burlington.....	23,613	0	0	0	0	0	0	0	0	11
Massachusetts:										
Boston.....	770,400	0	0	0	18	2	1	0	8	201
Fall River.....	120,912	0	0	0	2	3	0	0	7	31
Springfield.....	144,227	0	0	0	2	0	0	0	0	27
Worcester.....	191,927	0	0	0	5	0	0	1	0	37
Rhode Island:										
Pawtucket.....	68,799	0	0	0	1	0	0	0	0	16
Providence.....	242,378	0	0	0	3	1	0	0	0	64
Connecticut:										
Bridgeport.....	¹ 143,555	0	0	0	0	0	1	0	1	23
Hartford.....	¹ 138,036	0	0	0	4	1	0	0	0	26
New Haven.....	172,967	0	0	0	1	1	2	0	0	33
MIDDLE ATLANTIC.										
New York:										
Buffalo.....	536,718	0	0	0	12	1	1	1	7	117
New York.....	5,927,625	0	0	0	100	16	36	6	178	1,308
Rochester.....	317,867	0	0	0	4	6	0	0	0	63
Syracuse.....	184,511	0	0	0	1	1	0	0	1	—
New Jersey:										
Camden.....	124,157	0	0	0	2	0	0	0	2	28
Newark.....	438,689	0	0	0	9	1	0	0	—	79
Trenton.....	127,390	0	2	0	2	0	0	0	3	38
Pennsylvania:										
Philadelphia.....	1,922,788	0	5	0	32	16	3	0	—	422
Pittsburgh.....	613,442	0	8	1	14	2	1	0	16	160
Reading.....	110,917	0	1	0	0	1	0	0	3	20
Scranton.....	140,636	0	0	0	2	0	0	0	6	—
EAST NORTH CENTRAL.										
Ohio:										
Cincinnati.....	406,312	1	7	0	10	2	0	0	4	109
Cleveland.....	888,519	2	2	1	16	4	1	0	75	163
Columbus.....	261,082	1	10	0	1	1	0	0	2	68
Toledo.....	268,338	2	19	0	11	2	1	1	22	70
Indiana:										
Fort Wayne.....	93,573	1	3	0	2	0	0	0	—	28
Indianapolis.....	342,718	4	12	0	3	2	5	0	—	88
South Bend.....	76,709	1	0	0	0	1	0	0	0	8
Terre Haute.....	68,939	0	1	0	1	0	0	0	0	17
Illinois:										
Chicago.....	2,886,121	1	6	0	36	5	1	0	54	515
Cicero.....	55,968	0	0	0	2	0	0	0	2	12
Springfield.....	61,833	1	0	0	0	0	0	0	—	9
Michigan:										
Detroit.....	995,668	8	8	2	17	5	3	0	64	194
Flint.....	117,968	1	2	0	2	1	1	0	0	25
Grand Rapids.....	145,947	0	0	0	0	1	0	0	2	20
Saginaw.....	69,754	0	0	0	3	1	0	2	6	19
Wisconsin:										
Madison.....	42,519	0	0	0	0	0	0	0	14	4
Milwaukee.....	484,595	4	4	0	3	2	0	0	17	78
Racine.....	64,393	1	4	0	1	0	0	0	—	11
Superior.....	¹ 39,671	2	2	0	0	0	0	0	—	7
WEST NORTH CENTRAL.										
Minnesota:										
Duluth.....	106,289	2	2	1	1	1	0	0	3	21
Minneapolis.....	409,125	12	12	1	7	2	0	0	1	67
St. Paul.....	241,891	3	11	1	4	0	0	1	—	48

¹ Population Jan. 1, 1920.

City reports for week ended June 28, 1924—Continued.

Division, State, and city.	Population, July 1, 1923. estimated.	Smallpox.			Tuberculosis, deaths reported.	Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.		Cases, estimated expectancy.	Cases reported.	Deaths reported.		
WEST NORTH CENTRAL—contd.										
Iowa:										
Des Moines.....	140,923	4	5	—	—	0	—	—	0	—
Sioux City.....	79,662	2	0	—	—	0	1	—	0	—
Waterloo.....	39,667	1	2	—	—	0	0	—	3	—
Missouri:										
Kansas City.....	351,819	4	0	0	6	1	2	0	8	69
St. Joseph.....	78,232	0	0	0	1	0	0	0	0	28
St. Louis.....	803,853	2	0	0	14	3	1	0	9	178
North Dakota:										
Fargo.....	24,841	0	7	0	0	0	0	0	1	4
Grand Forks.....	14,547	0	0	0	0	0	0	0	0	—
South Dakota:										
Aberdeen.....	15,829	—	1	0	0	—	0	0	1	—
Sioux Falls.....	29,206	0	0	0	0	0	0	0	0	4
Nebraska:										
Lincoln.....	58,761	2	0	0	0	0	0	0	—	5
Omaha.....	204,382	2	3	0	0	0	0	0	0	39
Kansas:										
Topeka.....	52,555	2	0	0	2	1	0	1	2	32
Wichita.....	79,261	5	4	0	0	0	1	0	6	18
SOUTH ATLANTIC.										
Delaware:										
Wilmington.....	117,728	0	0	0	0	1	0	0	4	20
Maryland:										
Baltimore.....	773,580	0	1	0	23	4	1	0	27	212
Cumberland.....	32,361	0	0	0	0	1	0	0	—	6
Frederick.....	11,301	0	0	0	0	0	0	0	0	4
District of Columbia:										
Washington.....	1,437,571	0	0	0	8	2	2	0	6	125
Virginia:										
Lynchburg.....	30,277	1	0	0	1	1	0	0	0	11
Norfolk.....	159,089	1	0	0	3	2	0	0	4	—
Richmond.....	181,044	0	0	0	3	2	0	0	13	44
Roanoke.....	55,502	1	0	0	2	0	0	0	3	19
West Virginia:										
Charleston.....	45,597	0	0	0	1	3	1	0	0	15
Huntington.....	57,918	0	0	0	1	0	0	0	0	18
Wheeling.....	156,208	0	0	0	0	1	1	0	0	14
North Carolina:										
Raleigh.....	29,171	0	4	0	2	0	2	1	0	11
Wilmington.....	35,719	0	0	0	1	1	0	0	0	11
Winston-Salem.....	56,230	1	1	0	1	2	0	0	—	34
South Carolina:										
Charleston.....	71,245	0	0	0	3	4	0	0	1	36
Columbia.....	39,688	0	0	0	1	1	2	0	2	27
Greenville.....	25,789	0	1	0	1	1	1	1	8	12
Georgia:										
Atlanta.....	222,963	5	5	0	5	3	0	1	0	69
Brunswick.....	15,937	0	0	0	0	1	0	0	0	1
Savannah.....	89,448	0	0	0	3	2	0	0	0	27
Florida:										
St. Petersburg.....	24,403	—	—	—	—	—	—	—	—	—
Tampa.....	56,050	0	0	0	1	0	0	1	0	17
EAST SOUTH CENTRAL.										
Kentucky:										
Covington.....	57,877	0	0	0	2	1	0	0	0	18
Lexington.....	43,673	0	1	0	1	1	0	0	0	12
Louisville.....	257,671	0	3	0	5	2	0	0	1	65
Tennessee:										
Memphis.....	170,067	2	7	0	10	2	2	0	2	71
Nashville.....	121,128	0	0	0	4	5	0	0	—	54
Alabama:										
Birmingham.....	195,901	0	25	0	3	3	0	0	1	80
Mobile.....	63,858	1	1	0	0	2	0	2	0	13
Montgomery.....	45,383	0	0	0	0	1	1	0	0	5

1 Population Jan. 1, 1920.

City reports for week ended June 28, 1924—Continued

Division, State, and city.	Popula- tion, July 1, 1923, estimated.	Smallpox.			Tuberculosis, deaths reported.	Typhoid fever.			Whooping cough cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.		Cases, estimated expectancy.	Cases reported.	Deaths reported.		
WEST SOUTH CENTRAL.										
Arkansas:										
Fort Smith.....	30,635	0	0	0		0	0		3	
Little Rock.....	70,916	0	1	0	3	1	0	0	0	
Louisiana:										
New Orleans.....	404,575	1	0	0	16	6	2	2	0	153
Shreveport.....	54,590		0	0	1		0	0	0	19
Oklahoma:										
Oklahoma.....	101,150	3	5	0	0	1	0	0	0	
Tulsa.....	102,018	0	3		0	2	0		0	
Texas:										
Dallas.....	177,274	0	0	0	4	3	2	0	11	46
Galveston.....	46,877	0	0	0	4	1	0	0	0	12
Houston.....	154,970	2	5	0	3	2	0	0		39
San Antonio.....	184,727	2	1	0	8	1	0	0	0	49
MOUNTAIN.										
Montana:										
Billings.....	16,927	0	0	0	0	0	0	0	0	11
Great Falls.....	27,787	2	1	0	0	0	0	0	0	11
Helena.....	12,037		0	0	0		0	0	0	2
Missoula.....	12,668	1	4	0	0	0	0	0	0	2
Idaho:										
Boise.....	22,806	0	4	0	0	0	0	0	0	3
Colorado:										
Denver.....	272,031	10	0	0	14	0	2	1	33	78
Pueblo.....	43,519	1	0	0	1	0	0	0	0	10
New Mexico:										
Albuquerque.....	16,648	0	0	0	2	0	0	0	0	9
Utah:										
Salt Lake City.....	126,241	5	0	0	2	1	1	0	2	33
Nevada:										
Reno.....	12,429	0	0	0	0	0	0	0	2	2
PACIFIC.										
Washington:										
Seattle.....	315,685	3	6			1	0		2	
Spokane.....	104,573	4	9			1	0		0	
Tacoma.....	101,731	3	2			0	0		1	
Oregon:										
Portland.....	273,621	8	6	0	3	1	0	0	0	61
California:										
Los Angeles.....	666,853	2	37	0	18	4	8	0	12	221
Sacramento.....	69,950	0	0	0	2	1	0	0	2	31
San Francisco.....	539,038	0				1				

† Population Jan. 1, 1920.

Division, State, and city.	Cerebrospinal meningitis.		Lethargic en- cephalitis.		Pellagra		Poliomyelitis (infantile paralysis).		
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases, est. expectancy.	Cases.	Deaths.
NEW ENGLAND.									
Massachusetts:									
Boston.....	2	0	0	0	0	0	1	0	0
Rhode Island:									
Providence.....	0	1	0	1	0	0	0	0	0
Connecticut:									
Bridgeport.....	0	0	0	0	0	0	0	1	0
Hartford.....	0	0	1	0	0	0	0	0	0

City reports for week ended June 28, 1924—Continued.

Division, State, and city.	Cerebrospinal meningitis.		Lethargic encephalitis.		Pellagra.		Poliomyelitis (infantile paralysis).		
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases, est. expectancy.	Cases.	Deaths.
MIDDLE ATLANTIC.									
New York:									
New York.....	3	2	7	6	0	0	2	1	1
Syracuse.....	0	0	0	0	0	0	0	1	2
EAST NORTH CENTRAL.									
Ohio:									
Columbus.....	0	0	0	0	0	0	0	2	0
Illinois:									
Chicago.....	1	1	0	0	0	0	1	0	0
Michigan:									
Detroit.....	1	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL.									
Iowa:									
Des Moines.....	0	0	0	0	0	0	0	1	0
Missouri:									
St. Louis.....	2	0	0	0	0	0	0	0	0
SOUTH ATLANTIC.									
Maryland:									
Baltimore.....	1	0	0	2	0	0	1	0	0
District of Columbia:									
Washington.....	0	0	0	0	0	0	0	1	0
North Carolina:									
Winston-Salem.....	0	0	0	0	0	2	0	0	0
South Carolina:									
Columbia.....	0	0	0	0	0	3	0	0	0
Georgia:									
Savannah.....	0	0	0	0	1	1	0	0	0
Florida:									
Tampa.....	0	1	0	0	0	0	0	0	0
EAST SOUTH CENTRAL.									
Kentucky:									
Lexington.....	0	0	0	0	0	1	0	0	0
Alabama:									
Birmingham.....	1	0	0	0	1	1	0	0	0
Montgomery.....	0	0	0	0	1	0	0	0	0
WEST SOUTH CENTRAL.									
Arkansas:									
Little Rock.....	0	0	0	0	2	0	0	0	0
Louisiana:									
New Orleans.....	0	0	1	0	3	3	0	1	0
Texas:									
Dallas.....	1	1	0	0	1	1	0	0	0
Houston.....	0	0	0	0	0	1	0	0	0
MOUNTAIN.									
New Mexico:									
Albuquerque.....	0	0	0	0	0	1	0	0	0

The following table gives a summary of the reports from 105 cities for the ten-week period ended June 28, 1924. The cities included in this table are those whose reports have been published for all ten weeks in the Public Health Reports. Eight of these cities did not report deaths. The aggregate population of the cities reporting cases was estimated at nearly 29,000,000 on July 1, 1923,

which is the latest date for which estimates are available. The cities reporting deaths had more than 28,000,000 population on that date. The number of cities included in each group and the aggregate population are shown in a separate table below.

Summary of weekly reports from cities, April 20 to June 28, 1924.

DIPHTHERIA CASES.

	1924, week ended—									
	Apr. 26.	May 3.	May 10.	May 17.	May 24.	May 31.	June 7.	June 14.	June 21.	June 28.
Total.....	988	910	892	930	927	809	919	911	871	878
New England.....	111	97	83	78	94	85	90	73	97	78
Middle Atlantic.....	400	344	395	357	340	371	387	405	361	387
East North Central.....	156	173	157	168	175	¹ 130	150	157	² 131	136
West North Central.....	71	68	64	110	105	80	76	55	65	36
South Atlantic.....	50	38	31	42	32	33	41	35	29	20
East South Central.....	13	6	8	3	8	4	8	6	4	8
West South Central.....	33	18	26	16	18	18	18	17	15	15
Mountain.....	31	35	29	18	30	14	37	15	30	30
Pacific.....	123	131	99	138	124	134	112	148	139	³ 168

MEASLES CASES.

Total.....	5,203	4,730	4,422	4,019	3,716	2,943	3,240	2,847	2,309	1,857
New England.....	354	379	339	271	310	227	247	175	168	120
Middle Atlantic.....	2,184	2,310	1,889	1,868	1,571	1,231	1,483	1,287	1,050	774
East North Central.....	829	703	862	781	873	1,733	747	756	² 578	565
West North Central.....	350	257	274	197	128	124	130	97	87	63
South Atlantic.....	518	485	457	465	468	344	317	317	218	187
East South Central.....	173	98	73	59	56	47	36	32	26	19
West South Central.....	127	104	71	51	33	28	19	11	2	5
Mountain.....	193	113	97	100	79	70	50	20	33	35
Pacific.....	475	281	360	230	198	139	211	152	147	³ 89

SCARLET FEVER CASES.

Total.....	1,532	1,605	1,549	1,503	1,311	1,213	1,244	1,068	969	717
New England.....	271	242	210	213	165	168	181	143	111	92
Middle Atlantic.....	467	473	470	452	406	380	401	335	322	226
East North Central.....	284	325	318	336	279	¹ 259	243	252	² 250	161
West North Central.....	195	197	219	223	182	167	182	160	128	102
South Atlantic.....	168	171	159	118	134	112	121	92	56	43
East South Central.....	12	16	19	9	9	8	11	6	6	1
West South Central.....	18	23	15	14	14	11	11	12	9	7
Mountain.....	23	27	37	25	30	17	17	3	13	12
Pacific.....	94	131	102	113	92	91	77	65	74	³ 73

SMALLPOX CASES.

Total.....	568	543	460	529	408	331	472	334	345	238
New England.....	0	0	0	0	0	0	0	0	0	0
Middle Atlantic.....	0	0	0	5	1	1	8	7	9	16
East North Central.....	193	186	165	213	181	¹ 149	174	157	² 121	61
West North Central.....	62	53	33	39	26	19	40	33	34	41
South Atlantic.....	98	70	95	51	54	29	39	44	35	12
East South Central.....	55	49	20	54	33	36	107	22	65	36
West South Central.....	2	4	1	7	6	7	5	7	8	7
Mountain.....	6	5	6	6	3	7	2	6	10	9
Pacific.....	152	176	140	154	104	83	97	58	63	³ 56

¹ Figures for Columbus, Ohio, estimated. Report not received at time of going to press.

² Figures for Columbus, Ohio, Grand Rapids, Mich., and South Bend, Ind., estimated.

³ Figures for San Francisco, Calif., estimated.

Summary of weekly reports from cities, April 20 to June 28, 1924—Continued.

TYPHOID FEVER CASES.

	1924, week ended—									
	Apr. 26.	May 3.	May 10.	May 17.	May 24.	May 31.	June 7.	June 14.	June 21.	June 28.
Total.....	58	49	68	73	78	78	92	107	133	89
New England.....	7	4	9	2	6	9	3	7	8	4
Middle Atlantic.....	11	10	25	32	24	18	30	46	58	41
East North Central.....	10	11	9	12	7	¹ 6	11	9	² 12	11
West North Central.....	1	3	2	3	8	5	8	5	4	5
South Atlantic.....	8	11	11	8	18	13	12	10	16	10
East South Central.....	8	3	3	7	6	11	7	8	13	3
West South Central.....	6	3	3	3	5	10	13	13	8	4
Mountain.....	0	1	3	0	2	1	0	0	4	3
Pacific.....	7	3	3	6	2	5	8	9	10	³ 8

INFLUENZA DEATHS.

Total.....	72	51	60	49	40	30	21	15	22	13
New England.....	3	2	2	1	2	1	1	1	0	1
Middle Atlantic.....	30	21	32	25	10	10	5	6	8	3
East North Central.....	12	7	10	5	11	¹ 10	3	2	² 2	3
West North Central.....	4	3	3	4	3	1	2	2	1	0
South Atlantic.....	10	5	7	5	6	5	3	1	5	4
East South Central.....	8	3	4	4	3	1	2	3	3	2
West South Central.....	3	4	0	3	1	1	2	0	3	0
Mountain.....	2	0	1	1	1	0	0	0	0	0
Pacific.....	0	6	1	1	3	1	3	0	0	³ 0

PNEUMONIA DEATHS.

Total.....	950	935	782	743	644	630	590	574	508	434
New England.....	63	69	55	52	36	34	37	46	28	22
Middle Atlantic.....	430	392	332	343	285	267	276	250	208	200
East North Central.....	170	199	150	139	136	¹ 131	118	108	² 124	91
West North Central.....	49	53	42	41	38	40	22	40	34	11
South Atlantic.....	114	97	93	86	64	60	66	52	50	50
East South Central.....	42	44	29	22	32	40	18	20	12	15
West South Central.....	35	24	25	27	27	14	18	27	23	12
Mountain.....	26	27	24	13	11	18	14	15	9	12
Pacific.....	30	30	32	20	15	26	21	16	20	³ 21

¹ Figures for Columbus, Ohio, estimated. Report not received at time of going to press.² Figures for Columbus, Ohio, Grand Rapids, Mich., and South Bend, Ind., estimated.³ Figures for San Francisco, Calif., estimated.

Number of cities included in summary of weekly reports and aggregate population of cities in each group, estimated as of July 1, 1923.

Group of cities.	Number of cities reporting cases.	Number of cities reporting deaths.	Aggregate population of cities reporting cases.	Aggregate population of cities reporting deaths.
Total.....	105	97	28,898,350	28,140,934
New England.....	12	12	2,098,746	2,098,746
Middle Atlantic.....	10	10	10,304,114	10,304,114
East North Central.....	17	17	7,032,535	7,032,535
West North Central.....	14	11	2,515,330	2,381,454
South Atlantic.....	22	22	2,566,901	2,566,901
East South Central.....	7	7	911,885	911,885
West South Central.....	8	6	1,124,564	1,023,013
Mountain.....	9	9	546,445	546,445
Pacific.....	6	3	1,797,830	1,275,841

FOREIGN AND INSULAR.

BRAZIL.

Leprosy—Para.

During the week ended June 15, 1924, two deaths from leprosy were notified at Para, Brazil.

CANADA.

Leprosy—British Columbia—New Brunswick.

Information received under date of June 28, 1924, indicates the existence of leprosy in British Columbia, Canada, with 9 cases, and in New Brunswick with 10 cases. The leper station in New Brunswick is stated to be situated at Tracadie, Gloucester County.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been reported at Habana as follows:

Disease.	June 21-30, 1924.		Remain- ing under treatment June 30, 1924.
	New cases.	Deaths.	
Cerebrospinal meningitis.....	1	—	1
Diphtheria.....	2	—	6
Leprosy.....	—	—	15
Malaria.....	12	—	138
Measles.....	8	—	7
Paratyphoid fever.....	9	—	10
Scarlet fever.....	2	1	3
Typhoid fever.....	173	18	191

¹ From the interior, 9.

² From the interior, 21.

Typhoid Fever.

A marked increase in the number of reported cases of typhoid fever at Habana is noted. The increase was stated to have begun with the last half of the month of June, 1924. During the first decade of the month 4 cases with 1 death were reported; during the second decade, 20 cases with 4 deaths; and during the third decade, 173 cases with 18 deaths. Of the cases for the last-named period, 21 were stated to have been brought from the interior. For the four last days of the month the following figures were reported: June 27—29 cases, 3 deaths; June 28—14 cases, 2 deaths; June 29—38 cases, 2 deaths; June 30—24 cases, 3 deaths.

Inadequate and Infected Water Supply.

Under date of July 2, 1924, the water supply of Habana was stated to be insufficient in quantity, necessitating the use of water from the Almendares River, which was stated to be known to be infected. The situation was receiving attention from the health authorities.

ECUADOR.**Plague—May 16-31, 1924.**

During the period May 16 to 31, 1924, plague was reported in Ecuador as follows: Eloy Alfaro—one case; Guayaquil—one case.

Plague-Infected Rats—Guayaquil.

During the same period, out of 7,859 rats reported taken at Guayaquil, 56 rats were found plague infected.

FINLAND.**Communicable Diseases—May 1-15, 1924.**

During the period May 1 to 15, 1924, communicable diseases were reported in Finland as follows:

Disease.	Cases.
Diphtheria.....	31
Poliomyelitis (infantile paralysis).....	3
Scarlet fever.....	92
Typhoid fever.....	5

Population, officially estimated, 3,402,593.

Anthrax—Dysentery.

During the same period, two cases of anthrax and five cases of dysentery were reported in Finland.

GREECE.**Further Relative to Plague—Patras.**

Information dated July 7, 1924, shows 36 cases of plague at Patras, Greece.¹

GUATEMALA.**Quarantine Against Republic of Salvador.**

According to information dated June 27, 1924, quarantine has been established by the Republic of Guatemala against the Republic of San Salvador on account of suspect yellow fever.

¹ Public Health Reports, July 11, 1924, p. 1717.

JAMAICA.**Smallpox (Reported as Alastrim).**

During the week ended June 21, 1924, 49 new cases of smallpox (reported as alastrim) were notified in the Island of Jamaica.

Chicken Pox.

During the same period four new cases of chicken pox were reported in the island. Of these, two cases were reported for the parish of Kingston.

MALTA.**Communicable Diseases—May 16–31, 1924.**

Communicable diseases were reported in the Island of Malta during the period May 16 to 31, 1924, as follows:

Disease.	Cases.	Disease.	Cases.
Broncho-pneumonia.....	2	Trachoma.....	8
Chicken pox.....	1	Tuberculosis.....	13
Diphtheria.....	1	Typhoid fever.....	7
Measles.....	41	Undulant fever.....	46
Pneumonia.....	1	Whooping cough.....	1

Population, officially estimated, 216,702.

PERU.**Plague—May, 1924.**

During the month of May, 1924, 5 cases of plague with 5 deaths were reported in Peru. Of these, 1 case with 1 death occurred at Mollendo, 3 cases and 4 deaths at Lima, and 1 case in the vicinity of Lima.

UNION OF SOUTH AFRICA.**Plague—Orange Free State.**

During the week ended May 17, 1924, 5 new cases of plague, of which 3 were in the white population and 2 in the native, with 2 deaths occurring in the white population, were reported in the Union of South Africa. The occurrence was in the Kroonstad and Winburg districts of the Orange Free State. A case of plague (white) reported for the week ended May 10, 1924, was reported to have terminated fatally.

The total number of plague cases and deaths for the period December 16, 1923–May 17, 1924, was stated as follows: Cases, 335 (white, 51; native, 284); deaths, 204 (white, 25; native, 179).

Smallpox—Typhus Fever—April, 1924.

During the month of April, 1924, 23 cases of smallpox were reported in the Union of South Africa, occurring among the colored or native population and 1 case occurring in a European.

During the same period, 136 cases of typhus fever, with 13 deaths, were reported in the Union of South Africa. Of these, 133 cases with 13 deaths were among the colored or native population and 3 cases among the white population. For distribution of occurrence of typhus according to States, see page 1773.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.

The reports contained in the following tables must not be considered as complete or final as regards either the lists of countries included or the figures for the particular countries for which reports are given.

Reports Received During Week Ended July 18, 1924.¹

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands:				
Province—				
Cagayan.....	Mar. 30-Apr. 5.....	1	1	
Laguna.....	May 18-24.....	1	1	

PLAGUE.

Ceylon:				
Colombo.....	May 18-31.....	2	1	Plague rodents: Seven.
China:				
Poochow.....	do.....		2	
Ecuador:				
Eloy Alfaro.....	May 16-31.....	1		
Guayaquil.....	do.....	1		Rats taken: 7,859; found infected, 56.
Greece:				
Patras.....				July 7, 1924: 36 cases reported.
Indo-China:				
Saigon.....	May 4-10.....	1	1	Including 100 square kilometers of surrounding country.
Peru				May 1-31, 1924: Cases, 5; deaths, 5.
Locality—				
Lima (city).....	May 1-31.....	3	4	
Lima (country).....	do.....	1		
Mollendo.....	do.....	1	1	
Union of South Africa.....				May 11-17, 1924: Cases, 5 (white, 3; colored or native, 2); deaths, 2 (white). Total for period Dec. 16, 1923-May 17, 1924, for the Union of South Africa: Cases, 335 (white, 51; native, 284); deaths, 204 (white, 25; native, 179).
Orange Free State.....				May 11-17, 1924: Cases, 5; deaths, 2.

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended July 18, 1924—Continued.

SMALLPOX

Place.	Date.	Cases.	Deaths.	Remarks.
Canada:				
British Columbia—				
Vancouver	June 15-21	7		
New Brunswick—				
Restigouche County				June 1-30, 1924: Cases, 7.
Ontario—				
Windsor	June 22-28	1		
Chile:				
Valparaiso	June 1-7		1	This report covers the two principal districts of Valparaiso.
China:				
Amoy	May 25-31			Present.
Chungking	do			Wide spread.
Foochow	May 18-31			Present.
Hongkong	May 4-10	11	6	
Manchuria—				
Dairen	May 19-25	9	5	
Shanghai	May 25-31		1	Chinese.
Tientsin	May 18-24	3		One mission hospital.
Denmark:				
Copenhagen	May 18-31	3	1	
Egypt:				
Alexandria	June 4-10	1		
Great Britain:				
England and Wales				June 15-21, 1924: Cases, 58.
Counties—				
Derby	June 15-21	28		
Northumberland	do	7		
Nottingham	do	6		
Yorks (North Riding)	do	16		
Indo-China:				
Saigon	May 4-17	41	22	Including 100 square kilometers of surrounding country.
Jamaica				June 15-21, 1924: Cases, 49. (Reported as alastrim.)
Japan:				
Nagoya	June 8-14	2		
Java:				
East Java—				
Soerabaya	Apr. 27-May 3	36	13	
Portugal:				
Lisbon	May 25-June 14	6	1	
Spain:				
Valencia	June 15-21	2		
Straits Settlements:				
Singapore	May 4-10	1		
Switzerland:				
Berne	June 1-7	3		
Syria:				
Damascus	May 28-June 3	7		
Union of South Africa				Apr. 1-30, 1924: Cases, 24 (colored or native, 23; European, 1).

TYPHUS FEVER.

Chile:				
Valparaiso	June 1-14		3	Information based on returns from the two principal districts of Valparaiso.
Great Britain:				
Dublin	June 8-14	1		
Syria:				
Aleppo	do	1		
Union of South Africa				Apr. 1-30, 1924: Cases, 136; deaths, 13. (Colored and native—cases 133; deaths, 13; white—cases, 3.)
Cape Province				Apr. 1-30, 1924: Cases, 84; deaths, 6.
Natal				Apr. 1-30, 1924: Cases, 7; deaths, 2.
Do	May 11-17			Outbreaks.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended July 18, 1924—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Union of South Africa—Con. Orange Free State.....				Apr. 1-30, 1924: Cases, 36; deaths, 5.
Transvaal Johannesburg.....	May 18-24.....	1		Apr. 1-30, 1924: Cases, 6.

YELLOW FEVER.

Brazil: Pernambuco.....	May 11-17.....	2	1	
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Reports Received from June 28 to July 11, 1924.¹

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Apr. 20-May 3, 1924: Cases, 21,517; deaths, 16,219.
Bombay.....	May 4-10.....	1	60	
Calcutta.....	May 11-24.....	71	17	
Rangoon.....	do.....	24		
Indo-China:				
Saigon.....	Apr. 27-May 3.....	1	1	
Siam:				
Bangkok.....	May 4-17.....	4	3	

PLAGUE.

Argentina:				
Chaco Territory.....				April, 1924: Cases reported.
Ceylon:				
Colombo.....	May 11-17.....	3	1	Plague rats, 2.
Chile:				
Antofagasta.....	June 1-7.....	1		
China:				
Foochow.....	May 4-17.....		11	
Egypt:				Jan. 1-May 29, 1924: Cases, 252; deaths, 126.
City—				
Alexandria.....	Apr. 2.....	1	1	
Port Said.....	Apr. 24-May 3.....	1		
Suez.....	May 14-20.....	1		
Province—				
Assiout.....	Apr. 1-May 25.....	37	28	
Charkieh.....	Jan. 31.....	1	1	
Fayoum.....	Feb. 18-May 20.....	76	21	
Gharbieh.....	Apr. 21.....	1	1	
Ghirgeh.....	Jan. 17-May 13.....	10	3	
Kalioubieh.....	Jan. 6-May 22.....	10	1	
Kena.....	Apr. 9-May 17.....	44	26	
Menoufieh.....	Jan. 2-May 16.....	43	28	
Minia.....	Feb. 5-May 27.....	18	11	
Greece:				
Patras.....	July 4.....	16	1	
India:				Apr. 20-May 3, 1924: Cases, 34,494; deaths, 28,648.
Bombay.....	May 4-17.....	27	24	
Calcutta.....	May 11-24.....	6	6	
Karachi.....	May 18-31.....	11	7	
Madras Presidency.....	do.....	7	2	
Rangoon.....	May 11-24.....	20	22	
Iraq:				
Bagdad.....	Apr. 20-May 10.....	51	35	

¹ From medical officers of the Public Health Service, American consuls, and other sources. For reports received from Dec. 29, 1923, to June 27, 1924, see Public Health Reports for June 27, 1924. The tables of epidemic diseases are terminated semiannually and new tables begun.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to July 11, 1924—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Japan:				
Shizuoka Prefecture—				
Higashi	June 24			Present.
Madagascar:				
Tananarive Province				Apr. 1-15, 1924: Cases, 54; deaths 50.
Tananarive Town	Apr. 1-15	8	8	
Other localities	do	46	42	
Persia:				
Bushire	Apr. 1-30	1	1	In quarantine from vessel.
Siam:				
Bangkok	May 4-10	2	2	
Union of South Africa				Apr. 27-May 10, 1924: Cases, 10; deaths, 8. Total, Dec. 16, 1923-May 10, 1924: Cases, 330; deaths, 201 (White, 48 cases; 22 deaths; native cases, 282; deaths, 179.)

SMALLPOX.

Bolivia:				
La Paz	May 1-31	2	4	Smallpox in surrounding country.
Brazil:				
Porto Alegre	May 18-24		1	
Rio de Janeiro	do	2		
British South Africa:				
Northern Rhodesia	May 6-12	13	1	Native.
Canada:				
Quebec—				
Montreal	June 8-14	1		
Chile:				
Antofagasta	June 11	2		Under treatment at lazaretto.
China:				
Amoy	May 11-17			Present.
Chungking	do			Widespread.
Manchuria—				
Dairen	May 12-18	6	2	
Harbin	May 13-19	1		
Tientsin	May 4-17	5		
Egypt:				
Cairo	Feb. 19-Mar. 11	9		
France:				
Paris	May 21-31	2		
Great Britain:				
England and Wales				May 25-June 14, 1924: Cases, 219.
Counties—				
Derby	May 25-June 14	107		
Northumberland	do	43		
Nottingham	do	21		
Yorks (North Riding)	May 25-June 14	25		
India:				Apr. 20-May 3, 1924: Cases, 7,121; deaths, 1,536.
Bombay	May 4-17	172	99	
Calcutta	May 11-24	3	3	
Karachi	May 18-31	27	11	
Madras	do	6	1	
Rangoon	May 11-24	16	8	
Indo-China:				
Saigon	Apr. 27-May 3	40	23	Including 100 square kilometers of surrounding country.
Iraq:				
Bagdad	Apr. 20-May 10	6	1	
Italy:				
Messina	May 25-June 1	1		
Jamaica:				June 1-14, 1924: Cases, 75 (reported as alastrim).
Kingston	June 1-14	3		
Japan:				
Kobe	May 26-June 8	2		
Java:				
East Java—				
Soerabaya	Apr. 13-26	42	18	
Latvia:				Apr. 1-30, 1924: One case.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to July 11, 1924—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Guadalajara.....	May 1-31.....	5	1	Including municipalities in Federal district.
Mexico City.....	May 4-31.....	61		
Salina Cruz.....	May 25-31.....	1	1	
Tampico.....	June 14-20.....	2		
Palestine:				
Samaria—				
Samak.....	May 27-June 2.....	1		Mar. 30-Apr. 12, 1924: Cases, 90; deaths, 6.
Poland.....				
Portugal:				
Lisbon.....	May 25-June 7.....	4		
Oporto.....	May 11-June 7.....	14	8	
Siam:				
Bangkok.....	Apr. 27-May 17.....	3	4	
Spain:				
Barcelona.....				Year 1923: Cases, 160.
Valencia.....	June 8-14.....	1		
Sumatra:				
Medan.....	Jan. 1-31.....	5		
Switzerland:				
Berne.....	May 25-31.....	7		
Tunis:				
Tunis.....	May 27-June 9.....	7		
Union of South Africa:				
Cape Province.....	May 4-10.....			Mar. 1-31, 1924: Cases, 56 (white, 4 cases; native, 52).
Orange Free State.....	do.....			Outbreaks.
Transvaal.....	do.....			Do.
On vessel:				
S. S. Karoo.....	May 7.....	1		At Durban, South Africa, from Bombay, India; vessel left Bombay Apr. 16, 1924. Patient, European.

TYPHUS FEVER.

Algeria:				
Algiers.....	May 1-31.....	19	8	
Chile:				
Concepcion.....	May 20-26.....		3	
Talcahuano.....	May 25-31.....	2		
Valparaiso.....	do.....		6	
China:				
Chungking.....	May 11-17.....			Widespread.
Egypt:				
Cairo.....	Feb. 19-Mar. 11.....	5	2	
Germany:				
Hamburg.....	May 25-31.....	3		
Iraq:				
Bagdad.....	Apr. 27-May 10.....	2		
Latvia.....				Apr. 1-30, 1924; Cases, 39.
Mexico:				
Guadalajara.....	May 1-31.....		1	Including municipalities in Federal District.
Mexico City.....	May 4-31.....	38		
Poland.....				Mar. 30-Apr. 12, 1924: Cases, 674; deaths, 77. Recurrent typhus: Cases, 3; deaths, 1.
Tunis:				
Tunis.....	May 27-June 9.....	4		
Turkey:				
Constantinople.....	May 18-31.....	5	1	
Union of South Africa:				
Cape Province.....				Mar. 1-31, 1924: Cases, 121; deaths, 13. (White—cases, 15; deaths, 1. Native—cases, 106; deaths, 12.)
Do.....	May 4-10.....			Mar. 1-31, 1924: Cases, 60; deaths, 5.
Natal.....				Outbreaks.
Durban.....	Apr. 20-26.....	1		Mar. 1-31, 1924: Cases, 2.
Orange Free State.....				Mar. 1-31, 1924: Cases, 19; deaths, 3.
Transvaal.....				Mar. 1-31, 1924: Cases, 25; deaths, 4.
Johannesburg.....	May 11-17.....	1		